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## ABSTRACT

Intended for use by those attempting to initiate or improve competency-based instruction in adult vocational education programs, this directory contains demographic and descriptive information on sixty selected courses and programs operating in public education, other government agencies, business, industry, and labor. Introductory material briefly describes the national survey of public and private sector programs from which these programs were selected. (From 278 usable survey responses, the 60 were chosen based on the thoroughness and appropriateness of the descriptions provided. Competency-based instruction is defined as that based on job/task analysis, and consisting of such elements as performance objectives, individualized instruction, and criterion-referenced testing.) Demographic information for each entry includes course or program title; name of facility and address; contact person and phone number; type of facility where course is offered; hours required to complete the course and whether it is completely open entry/open exit; number of competencies (tasks) identified in the job analysis; number of terminal performance objectives; approximate total enrollment; and months of the year when the program operates. The narrative description of each program covers the methods used for identification of tasks, development of performance objectives, instructional delivery, student testing, course evaluation, and program support. Entries are alphabetical by state and a cross reference index is provided by vocational subject area. (JT)

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Information Series No. 127

NATIONAL DIRECTORY OF SELECTED COMPETENCY-BASED  
ADULT VOCATIONAL EDUCATION PROGRAMS

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Identification and Analysis of Competency-Based  
Adult Vocational Education Programs Project

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U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Office of Education  
Bureau of Occupational and Adult Education

## ABSTRACT

This Directory is one of four publications from the project, "Identification and Analysis of Competency-Based Adult Vocational Education Programs." Information contained herein was collected via part of a mailed questionnaire in a National survey of competency-based adult vocational programs operating in public education, other government agencies, business, industry, and labor. Of 278 usable responses to the survey, 60 course or program descriptions were selected for inclusion in this Directory. Descriptions include (1) method for identification of tasks, (2) development of performance objectives, (3) instructional delivery, (4) student testing procedures, (5) course evaluation, and (6) support systems. Demographic information includes course or program title, facility and address, contact person, hours required to complete the course or whether it is completely open entry/open exit, number of competencies or tasks identified in the job analysis, number of terminal performance objectives, approximate total enrollment, and months of the year when the course operates. The Directory entries are organized alphabetically by state and a subject area index is included. Also, initial chapters contain a detailed overview and a guide to the use of the National Directory. Related project publications include Workshop Proceedings, a technical research report of the National survey, and a final report.

## PREFACE

Competency-based education, based on a job/task analysis, and consisting of elements such as performance objectives, individualized instruction, and criterion-referenced testing, is considered a promising means of improving adult vocational instruction. Competency-based courses have been developed in business/industry/labor training programs, by educational institutions, and by other government agencies to provide individualized, meaningful and accountable training experiences. The scope and subject matter of these courses varies widely. However, the development process and methods of delivering the instruction can be generalized across subject areas. Information regarding the development and implementation of these courses may be helpful to others attempting to initiate or improve competency-based instruction. It is hoped that this Directory will provide a useful vehicle for such an exchange of information.

This Directory contains demographic and descriptive information on 60 selected competency-based adult vocational programs and courses identified in the "Identification and Analysis of Competency-Based Adult Vocational Education Programs" project. In this study both programs and courses were identified. Programs were defined as being broader in scope than courses. For example, typing and shorthand might be classified as courses within the office education program. Most of the entries in this Directory are courses. Programs were only described when all the courses within the program were utilizing competency-based instruction. During the project as many programs and courses as possible, within the constraints of time and budget, were identified. The Directory is not, however, a complete list of all such programs and courses. Rather it is a selected set based on the thoroughness and appropriateness of the descriptions provided. Competency-based instruction is a relatively new concept in adult vocational education. Further, it can be inferred from the project survey results that the number of these courses is still small. Additional details about the survey and the criteria used for selection are found in the Introduction of this publication.

Special appreciation is due to the many individuals conducting competency-based adult vocational education programs who participated in this study. Their survey responses and detailed program descriptions were the basis for this Directory. Acknowledgments are also in order for the many individuals and groups representing state divisions of vocational education, local school systems, business and industry training departments, the American Society of Training and Development (ASTD), community college and proprietary school administrators, and Center for Vocational Education personnel who nominated contact persons involved with specific competency-based adult vocational programs.

Recognition is given to the project staff for their diligent work in conducting the national survey and compiling this National Directory: Earl B. Russell, Project Director; Cynthia K. Anderson, Program Assistant; John Boulmetis, Graduate Research Associate; and Mary McAnaney and Jane Leemhuis, Secretaries. Acknowledgment is also given to Bruce A. Reinhart, Associate Director, for his administrative support.

This publication is one of four products developed in the "Identification and Analysis of Competency-Based Adult Vocational Education Programs" project carried out by The Center for Vocational Education at The Ohio State University and sponsored by the U.S. Office of Education, Bureau of Occupational and Adult Education. The other three publications are:

1. Proceedings of the National Workshop on Competency-Based Adult Vocational Instruction, August 2-5, 1977,
2. Competency-Based Adult Vocational Education Programs: A National Survey, and
3. Identification and Analysis of Competency-Based Adult Vocational Education Programs (Final Report).

Robert E. Taylor  
Executive Director

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## Chapter I

### INTRODUCTION

Adult learners have varying goals, aptitudes, abilities, needs, and job or career preferences. The flexibility of competency-based education (CBE) allows the educational program to deal with these differences. Trainers and educators may best meet the needs of the adult population with individualized, job relevant, performance-oriented instruction. Individualized, competency-based instruction based upon a job/task analysis allows the student to begin at her/his level and learn what is necessary to perform a particular job. Students progress at their own rate which is determined by demonstrated performance at a specified level of acceptance or competence under conditions approximating those on-the-job.

Although efforts are being made to incorporate CBE into adult education and training programs, little communication exists among the teachers, trainers, and course developers involved. The Competency-Based Adult Vocational Programs Project, of which this publication is a result, was an effort to assemble information to improve that communication.

#### The Method

A National survey was conducted to identify competency-based programs in education, business/industry/labor, and government agencies. Nominations of individuals involved in CBE were obtained through contacts with leaders in state divisions of vocational and adult education. Business/industry/labor and government agency nominations were obtained from a mailing to American Society for Training and Development (ASTD) members. The training departments of selected firms from the top 500 companies listed in the May 1976 issue of Fortune magazine were also contacted. Announcements about the project placed in appropriate journals and newsletters included a request for the names of individuals involved in competency-based efforts. As a result of a literature search on competency-based education, key individuals mentioned in or contributing to the literature were contacted and asked for nominations. From the approximately 1,900 nominations received, 1,657 were selected to receive the survey.

The survey was developed by project staff after an extensive search of the literature. A National Panel of Consultants with expertise in the area of competency-based education met at The Center for Vocational Education (CVE) to resolve technical issues and revise the instrument. After revisions based on a pilot test in Minnesota and

Ohio, a mail survey of the competency-based courses nominated was conducted. A total of 278 usable surveys were returned. Of these, 57 exemplary courses and three exemplary programs were selected for inclusion in the National Directory. Ten of these exemplary courses/programs were then studied in further detail through site visits and personal interviews with key personnel. Reports of these site visits are included in the report, Competency-Based Adult Vocational Education Programs: A National Survey. This report contains an in-depth description of the survey of which this section is an overview.

### The Descriptors

The programs and courses in this Directory possess, in varying degrees, the following elements or descriptors established for use in the survey instrument:

#### A. Structure of Course

Learners are held responsible for meeting stated performance objectives.

Learners are pre-assessed upon entry to determine learners' skills and objectives to be achieved, rather than all learners covering the same objectives.

Learners know the measures for which they are held accountable.

Instruction is segmented into manageable units, each containing related job skills.

Learners are responsible for achieving the competencies as opposed to clock hours of attendance.

Learner performance is recorded as each objective is achieved.

Greater emphasis is placed upon exit requirements (proficiency) than upon entrance requirements.

Competencies are derived from a task or job analysis of the particular job.

Student assessment criteria are based upon competencies (i.e., criterion-referenced testing is used).

Continuous evaluation and feedback to the learner is provided.

Individual learner competence is determined by individual learner performance.

Each learner is allowed to proceed to subsequent instruction as quickly as performance objectives are attained.

Instruction offers learning alternatives for learners (i.e., different approaches).

Instruction specifies media to be used to accomplish objectives.

If a learner does not achieve a learning task, a different method of instruction is provided or suggested.

#### B. Terminal Performance Objectives

Objectives describe the conditions under which the learner will be expected to demonstrate the level of competency.

Objectives describe the level of competency or standards (set by business or industry) to be demonstrated.

Objectives describe the tasks to be learned.

Objectives are structured in a sequential order or in order of task difficulty.

#### The Programs and Courses Selected

The programs and courses selected for this Directory vary in scope, subject area, type of facility where they are taught, and even the degree to which they can be considered competency-based. Many courses were developed and implemented by individual instructors working within a traditional setting. Several of these courses are outstanding because of that individual effort and commitment to competency-based learning. The most frequently mentioned problem encountered by these instructors was that they were locked into quarter, semester, or hour requirements by the school or training facility. A few other schools and training facilities have effectively applied competency-based instruction across all courses through the leadership of key administrators.

The methods of performing the job/task analysis varied. Often curriculum materials evolved from the instructor's years of experience on the job and no formal job or task analysis was used. Other instructors and course developers used craft or advisory committee suggestions and community surveys to obtain data on job requirements. A more formal job analysis, often one of the occupational inventories prepared by the Vocational-Technical Education Consortium of States (V-TECS), was used in many of the selected courses and programs.

Usually the performance objectives were developed by the instructor using data obtained in the job analysis. Those objectives were usually validated by the advisory committees. For those courses/programs utilizing the V-TECS catalogs, the performance objectives, criterion-referenced measures, and performance guides were developed by the V-TECS consortium for specific occupations. The instructor generally decides with input from the advisory committee, on the important objectives for her/his course and the order and method of teaching those objectives.

Curriculum materials generally were developed by instructors who in some cases were given released time and training for this task. These instructional materials in most of the courses are organized in a modular format. Modules generally consisted of performance objectives, learning activities, required resources, and some form of student testing. With the modules, instruction can be delivered individually, often in an open entry/open exit format. Videotapes, lecture/discussion, tapes, films, computers, filmstrips, demonstration, and programmed materials were mentioned as methods of delivering instruction.

Student demonstration of competency by some form of performance testing was commonly used in evaluating student progress. Many of the selected courses used written tests along with the performance tests. Often written tests are required for certification by some other agency, for example, state cosmetology licensing; and students must be prepared for that written test in addition to learning the competencies required for the job.

Student feedback was used in evaluating the courses or programs. Advisory committees, employers of students, school administrators, industry management, and state divisions of vocational education were mentioned as having input into course evaluation. Some instructors conduct student follow-up studies to determine the effectiveness of instruction and revise their courses based on that follow-up.

The courses/programs are funded through public vocational education monies, student tuition and in business/industry training programs by the firm involved. Other types of support include a wide use of advisory committees, and strong administrative support especially in schools where entire programs are competency-based. V-TECS member states offer instructors the opportunity to use the V-TECS catalog and they frequently provide related staff development workshops. Alabama has a program, Performance-Based Adult Vocational Education (PAVE), to assist adult instructors in implementing the V-TECS materials in their vocational areas.

## Chapter II

### GUIDE TO THE USE OF THE NATIONAL DIRECTORY OF SELECTED COMPETENCY-BASED ADULT VOCATIONAL EDUCATION PROGRAMS

This chapter describes the intended use of the Directory, location of courses and programs, format of Directory entries, and a summary statement.

#### Intended Use

The Directory is arranged by states to facilitate communication among those people interested in competency-based instruction in each area of the country. Because the concept is relatively new to adult vocational education, it will probably be most useful to look at the process involved in developing, implementing, and teaching a competency-based course or program. Trying to locate a course which matches your needs by subject area may not be possible without distant travel for on-site observation. A cross-reference by vocational subject area is provided in Appendix A. Some subject areas such as business and office education are more frequently represented than others, such as agricultural education. Even though a course in your particular area of interest may not be included, a site visit or some communication with a well-run competency-based program in another subject area can be very helpful in implementing or improving your competency-based course or program.

#### Geographic Distribution

The map on the following page illustrates the geographic distribution of the selected courses and programs. This is included to aid in your communication with contact persons in those programs which are most accessible to your area of the country. The map may also be seen as an indication of the status of competency-based adult vocational instruction at the present time. It may be concluded that competency-based instruction is new to the field of adult vocational education and is not yet widespread.

#### Format

Each course or program is listed with the following demographic information:



Course Title

Name of Facility and Address

Contact Person and Telephone Number: This is the person who is responsible for the course or program, and who can be contacted for information concerning that effort.

Type of Facility Where Course Is Offered

Hours Required to Complete the Course

Number of Competencies (tasks): Defined as a unit of work activity or operation that constitutes a logical and necessary step in the performance of a duty.

Number of Terminal Performance Objectives: Defined as a statement specifying what learners will be required to do in terms of terminal observable behavior, conditions under which the behavior will be exhibited, and the acceptable level of performance.

A narrative description of each course or program follows the demographic information. This descriptive information was provided by the contact person on the survey instrument. Consequently, some descriptions are more detailed than others.

Method for Identification of Tasks: This is a description of the job analysis, who performed it, if it was a formal or informal process, and where and how it was carried out.

Development of Performance Objectives: This involves the development process, how the information from the job analysis was organized and refined into performance objectives. The validation process, how the objectives were reviewed to assure they were consistent with job requirements, was also addressed in this section.

Instructional Delivery: This includes a description of the media, curriculum materials, and methods of delivering the instruction.

Student Testing Procedures: This describes the frequency, extent, and methods of evaluating student performance.

Course Evaluation: This describes how the course is reviewed and revised and who has input into those types of decisions.

Support System: The funding base for the course or institution is identified here. Other types of support, such as advisory groups, unions, or school administration, are also described in several

Directory entries.



### A Final Point

Please remember, the major purpose of compiling this information was for practitioners to USE it! Telephone, write, and/or visit as many contact persons responsible for courses or programs as time, energy, and money allow. Site visits are generally most useful if they are well planned.

## Chapter III

### SELECTED COMPETENCY-BASED ADULT VOCATIONAL EDUCATION PROGRAMS AND COURSES

The program and course descriptions in this chapter are listed alphabetically by state. Within a state's entries, where there are more than one, the program or course titles are listed in alphabetical order, also.

ALABAMA

COURSE TITLE: Practical Radio & TV for Beginners

NAME OF FACILITY AND ADDRESS: J. F. Drake State Technical College  
3421 Meridian Street, North  
Huntsville, AL 35811

CONTACT PERSON: Lester B. Kitchen

PHONE NUMBER: (205) 539-8161

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒

NUMBER OF COMPETENCIES (tasks): 61

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 0

APPROXIMATE TOTAL ENROLLMENT: 14

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☐

or

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified in the job analysis by an Occupational Inventory, administered to a sample of incumbent workers in the field. Workers surveyed were TV and Service Repairmen and TV Sales and Service Supervisors. The response rate was 77%. The cumulative sum of average time spent by the workers in D.O.T. (Dictionary of Occupational Titles) job titles 720.281-015 and 187.168-138 above the 90% level was used as a cut-off point.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed and validated by the State of Alabama V-TECS (Vocational-Technical Education Consortium of States) staff.

## INSTRUCTIONAL DELIVERY

Modules with individualized instructional methods are used whenever possible. Group lectures and films are used when appropriate for common block materials.

## STUDENT TESTING PROCEDURES

Student testing is criterion-referenced. Students perform exercises based on the objectives; successful performance is the measure of student accomplishment.

## COURSE EVALUATION

Course evaluation is conducted by V-TECS Staff personnel, third party evaluators, and by the use of data and reports submitted to the responsible individuals and officers.

## SUPPORT SYSTEM

The Alabama State Department of Education, Educational Consortium, and J. F. Drake State Technical College offer support for the instruction.

COURSE TITLE: Radio & TV Repair

NAME OF FACILITY AND ADDRESS: Tallapoosa-Alexander City Area  
Training Center  
100 East Country Club Drive  
Alexander City, AL 35010

CONTACT PERSON: Johnny H. Spears

PHONE NUMBER: (205) 329-8448

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Secondary

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: 72

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): ---

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 61

APPROXIMATE TOTAL ENROLLMENT: 14

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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## METHOD FOR IDENTIFICATION OF TASKS

Using the Vocational-Technical Education Consortium of States (V-TECS) catalog for radio and TV, the instructor rearranged the order of the 61 tasks from simple to complex for troubleshooting and repair of power supply circuits, radios, televisions, tape players, and record changers.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed through the V-TECS, Alabama State Department of Education, Auburn University, TV servicemen, TV sales and service supervisors, and instructors. The instructor participated in the performance-based adult vocational education project (PAVE) being conducted in Alabama. The PAVE system is designed to assist the instructor step-by-step through the process of utilizing tasks from the research based V-TECS catalogs to provide performance-based instruction to adult learners.

## INSTRUCTIONAL DELIVERY

During the first class meeting the learner is given a list of all tasks to be taught during the course and is asked to indicate those which he/she can already perform. The learner is given an opportunity to demonstrate the competence in each of these tasks. This is referred to as Entry Performance Demonstration (EPD). All EPDs for any specific task must be completed before instruction is begun on that particular task.

The course is organized by tasks. Instructional planning sheets for each task include: (1) necessary knowledges and skills, (2) learning activities, (3) resources-media and materials, and (4) student progress check notes. The progress checks may be either instructor checks or learner self-checks to determine whether or not the learner is acquiring the skills and knowledges necessary for meeting the performance objective. If the learner does not perform satisfactorily, the difficulty is diagnosed and he/she is redirected to the appropriate place in the instructional sequence. The learner proceeds through the instructional process and receives progress checks as an aid in meeting performance objectives and not as a penalty for which he/she receives a grade.

Various commercial textbooks and actual electronic components are used as resources in the instruction.

## STUDENT TESTING PROCEDURES

Progress checks may be either instructor checks or student self checks. Learners may be directed to complete a short paper-pencil test, compare their performance to a recognized standard, or simply have their performance visually inspected by the instructor.

After the learner has completed the instructional process and performed all progress checks for a task, he/she is asked to perform the complete task as specified in the performance objective for that task. This final performance and the standard to which it should be achieved is

called the "Criterion-Referenced Measure." The term "Criterion-Referenced Measure" (CRM) is used in all V-TECS catalogs and is used in this guide to indicate a type of "final exam" for each task. If a learner has performed all progress checks, he/she should have no trouble performing the CRM.

#### **COURSE EVALUATION**

The course is revised and reviewed by the instructor; student evaluations are taken into account. A course evaluation is conducted by the State of Alabama Dept. of Education and the V-TECS staff. The PAVE project is periodically reviewed by the instructors involved.

#### **SUPPORT SYSTEM**

Funding is provided by the State Department of Education along with supporting federal funds. The State Department of Education and the V-TECS staff members constitute the advisory groups.



CALIFORNIA

COURSE TITLE: Office Occupations

NAME OF FACILITY AND ADDRESS: Office Occupations Center  
11949 East 215th Street  
Hawaiian Gardens, CA 90716

CONTACT PERSON: Jack C. Wagnon

PHONE NUMBER: (213) 860-0331

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 251

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 55

APPROXIMATE TOTAL ENROLLMENT: 371

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☒

or

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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THE CENTER FOR VOCATIONAL EDUCATION

## METHOD FOR IDENTIFICATION OF TASKS

The California State Department of Education, Bureau of Business Education created a Business Education Program Guide for Office and Distributive Occupations. This guide includes requirements for a Common Core, Office Core, General Office Clerk, Clerk Typist, Stenographer, and Accounting Clerks of various levels. We have added others to this list. In addition, we used actual job descriptions from industry, DOT, government agencies, and our own staff's background.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The above referenced guide includes particular competencies with performance objectives for specific entry-level office occupations. The target student group is high school level calling for a proficiency far below what we feel is employable, so we have increased our requirements. We use published materials as well as our own developed materials. Input from employers, Advisory Councils, government agencies, and our own staff determine our curriculum. All instruction has measurable objectives.

## INSTRUCTIONAL DELIVERY

Ours is a unique program of classroom and "on-the-job" training. We operate on an open entry/open exit basis. Instruction is individualized. A student enters at his own particular level and advances accordingly at his own speed. Various levels of modules, texts and LAPS are used to accomplish this under the direction of the instructor.

## STUDENT TESTING PROCEDURES

Most students are tested in the basic subjects upon entry to the program. Upon completion of a basic subject, a student is again given the original testing to determine and evaluate progress. Pre-tests and post-tests are used in classes.

## COURSE EVALUATION

At least once a semester an evaluation form is filled out by all students then attending. This covers evaluating the program as a whole, individual classes, as well as the entire staff. The curriculum in each class is continually reviewed by that instructor as an individual, then checked by the teaching staff as a whole. Students are always asked for suggestions. We are so flexible that we can incorporate or discard materials at will. Of course, the ultimate evaluation is whether or not the student is trained well enough for placement.

## SUPPORT SYSTEM

An advisory group, administrative curriculum guidance and administration approval in most areas are utilized. We are given a budgeted amount of funds.

COURSE TITLE: Auto Maintenance and Repair

NAME OF FACILITY AND ADDRESS: Marin County Regional Occupational  
Program  
Hartzell School  
211 Los Ranchitos Road  
San Rafael, CA 94903

CONTACT PERSON: Alan Hopkins  
PHONE NUMBER: (415) 479-4200

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Secondary

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒ x

NUMBER OF COMPETENCIES (tasks): 80

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 9

APPROXIMATE TOTAL ENROLLMENT: 70

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☒ x

or

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
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## METHOD FOR IDENTIFICATION OF TASKS

1. The tasks for auto maintenance and repair were identified by using job descriptions supplied by members of the auto maintenance and repair advisory committee. The instructors also visited job sites and noted those tasks that were performed in actual job settings. These tasks were verified by potential employees by use of a sample profile sheet.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

During the analysis phase, the material was developed into a course outline and profile sheets were written using performance objectives. In using the objectives, validity was assured by advisory committee and employer verification and student feedback.

## INSTRUCTIONAL DELIVERY

The instruction is arranged in modules. Students may enter or leave the course at any time dependent on the competencies they possess. Team teaching, peer instruction, and teacher aides are utilized. The modules are individualized and self-paced.

## STUDENT TESTING PROCEDURES

Student performance is evaluated by the completion of skills shown on a profile sheet as assigned by the instructor. Students must pass a written examination on the theory aspects of the tasks and then are assigned a specific "hands-on" project. When the project is completed to the instructor's satisfaction, the students may move to the next skill.

## COURSE EVALUATION

An advisory committee reviews the course twice a year and recommends needed changes. The State Department of Education evaluates the placement program and the course itself to determine its suitability for the job market.

## SUPPORT SYSTEM

The program is operated by the county superintendent of schools office in cooperation with three secondary school districts. A program manager and director supervise the program, an executive board recommends funding, and the county superintendent and governing board authorize policy and budget. Funding comes from the local districts and a county-wide tax system.

COURSE TITLE: Bookkeeping

NAME OF FACILITY AND ADDRESS: Watts Skill Center  
840 E. 111th Place  
Los Angeles, CA 90008

CONTACT PERSON: Mr. Frank Holley

PHONE NUMBER: (213) 564-4451

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 68

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 204

APPROXIMATE TOTAL ENROLLMENT: 28

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Job descriptions have been secured from civil service agencies (city, county, and federal) as well as from private industry (banks, insurance companies, and from employment representatives in utility companies). Resource speakers visit at intermittent times. Instructors participate in a vocational exploration program periodically to define and update tasks as job changes are reflected in the job market.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The curriculum is reviewed, analyzed, and revised annually by consultants, staff, and resource persons from industry and government. Instructional materials are carefully selected (programmed texts and working papers) to provide for individualized instruction necessary for continuous intake of trainees. A course outline is developed spelling out performance objectives and including methods of measuring progress at the completion of each unit of study.

## INSTRUCTIONAL DELIVERY

The classroom is designed to allow trainees to progress at their own rate during the 16-20 weeks of instruction via open entry/open exit programming. Methods include heavy focusing on individualized instruction, programmed materials, audio and visual aids, and employment seminars (conducted on campus as well as off-campus, including tours to modern offices). A former trainee, now employed as Office Manager in a nearby firm, offers cooperative training during the training program in their Bookkeeping Department to the advanced bookkeeping trainees.

## STUDENT TESTING PROCEDURES

Trainees are tested orally (within groups, if enough are working in the same area); a written test is given at the completion of each chapter. Two comprehensive tests are given--one after completion of Chapter 4 and another towards completion.

## COURSE EVALUATION

Members of the department (clerical instructors) meet periodically during the training period to evaluate, update, and make any necessary revisions, deletions, or additions. The course is evaluated also through the technical advisory committee which meets on an annual basis; through comments and suggestions from industry representatives invited to visit and evaluate our training on an ongoing basis; and through feedback from employers and former trainees following job placement.

## SUPPORT SYSTEM

The counseling staff, job developer, community resource persons, and administrative staff offer assistance to trainees at intermittent times during training to reinforce training received in classrooms, preparing trainees for their ultimate objective--job placement. Funding occurs through the School District budget, State, County, and Los Angeles City CETA funds.

COURSE TITLE: Business Careers Program

NAME OF FACILITY AND ADDRESS: Woodruff Regional Occupational Center  
302 West Weber  
Stockton, CA 95203

CONTACT PERSON: Charles Walejko

PHONE NUMBER: (209) 466-4841

TYPE OF FACILITY WHERE COURSE IS OFFERED: Secondary & Post-secondary  
Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 62

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 200+

APPROXIMATE TOTAL ENROLLMENT: 188

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified by the Bureau of Business Education, State of California, Department of Education, and through the expertise of the instructors involved who had been teaching office occupations for 10 years and placing students in the local offices. Feedback from former students was considered as well as advisory committee suggestions. Job descriptions on file at local government agencies were another resource. Students may choose to prepare for the following occupational titles: Accounts Clerk, Billing and Book-keeping Machine Operator, Bookkeeper I, Calculating Machine Operator, Clerk-typist, Duplicating Machine Operator, Financial Records Clerk, Inventory Clerk, Mail and File Clerk, Receptionist-Typist, Stenographer, Transcriber (hand and machine), Typist-General Clerk, Clerk-General Office.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed and validated with the help of the Bureau of Business Education's competency-based curriculum guide. Other segments were added as warranted by local job market surveys and advisory committee input. Validation was done by the State Department of Education, Bureau of Business Education. A validation study in our local area was not conducted.

## INSTRUCTIONAL DELIVERY

Instruction is individualized and self-paced. Flexible scheduling is offered to every student by using a spin-in, spin-out method. This flexibility enables office employees to upgrade their skills at their own pace and level. There are three categories of competencies in the program: "common core," "office core," and "specialty areas." Students are pre-tested to determine if they are already competent in the area. If the student does not pass the pre-test, he/she must complete the appropriate learning packages before taking a post-test in that area. Student contracts are developed by agreement between the teacher and student. These contracts typically cover 1-3 competency areas at a given time and represent a basis for both student and teacher to monitor performance. Many of the learning packages have audio-visual materials included, such as audio tapes, slide-tape sets, and filmstrips.

Every student who reaches a defined level of competence can receive actual on-the-job training in local offices on a three-week rotation basis, using a community classroom concept. Through this approach, students can acquire the kinds of competencies which cannot be dealt with as effectively in the classroom.

## STUDENT TESTING PROCEDURES

Pre-tests are given for everything. If the pre-test is passed, the unit need not be completed. Students take and correct their own pre-tests. Post-tests are given at the end of each competency activity. Some tests involve teacher observation only. The emphasis is on demonstrated performance to meet the competency level rather than

grades. If a test is failed, the teacher will assign additional practice until student performance meets the criterion level.

## **COURSE EVALUATION**

Course evaluation occurs several different ways: (1) Instructors evaluate portions of the curriculum weekly. (2) Instructors evaluate the entire course at the end of the school year. (3) The State Department of Education, Bureau of Business Education, evaluates the program annually for approval or disapproval. (4) Students evaluate their instruction through suggestion boxes or informal papers written with no names. (5) The Advisory Committee evaluates the program during their meetings.

Approximately 60-70 percent of the students are successfully placed in jobs for which they were trained. A thorough follow-up of completed students is conducted. These students are asked for suggestions as to how their instruction could have better met job requirements.

## **SUPPORT SYSTEM**

Funding comes from special tax and state funds. The advisory committee is active. Counselors are available to the students. The program has a "community classroom" teacher who visits students on the job to assist in the transition from school to work and supervise on-the-job training. Two bilingual aides work with Spanish-speaking students. A full-time employee maintains the Inventory Desk where the learning packages are kept.

COURSE TITLE: Commercial Lending I

NAME OF FACILITY AND ADDRESS: Crocker National Bank  
79 New Montgomery St.  
San Francisco, CA 94104

CONTACT PERSON: Richard L. Ferrington

PHONE NUMBER: (415) 983-3297

TYPE OF FACILITY WHERE COURSE IS OFFERED: Business

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒

NUMBER OF COMPETENCIES (tasks): ---

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: ---

APPROXIMATE TOTAL ENROLLMENT: 807

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were derived in the job analysis through three methods: on-the-job observation of experts; analysis of existing bank resources and existing job-related paperwork, standards, and so on; and group sessions with incumbents where we "picked their brains" for several days.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives are based on the job analysis. Course developers attended Robert Mager's competency-based instruction seminar and then applied his methodology to their curriculum development. The objectives are validated by a multi-department committee of lenders, auditors, and training designers.

## INSTRUCTIONAL DELIVERY

The commercial lending course is delivered through 16 modules of self-paced, individualized instruction. The materials are kept in a set of three large looseleaf notebooks. The students keep a "learner workbook" during and after completion of the instruction. Two resource notebooks are kept at the branch training site for reference. Given competence in prerequisites, entry and exit are open. For novice learners a course manager is available to give assistance. The course managers are concerned primarily with testing and student observation as they proceed through modules on the job during training. Virtually all learning occurs in an on-the-job setting where the course manager works directly with the loan officers servicing actual customers. No simulation is used. The delivery method differs slightly for non-novice learners. Novices take more time to complete the course in Commercial Lending I than do experienced learners, but the bank now requires all loan officers, experienced or not, to be certified using this course.

## STUDENT TESTING PROCEDURES

Students are given on-the-job performance tests. The course managers observe their demonstration of skills and complete terminal performance checklists. Learners also must complete a case problem in financial analysis where they analyze a company's ability to repay a requested loan or line of credit.

## COURSE EVALUATION

The Training Department is responsible for all review, revision, and quality control. There is a well-coordinated use of line input in this review. A major evaluation method is to track the loan loss record of commercial lenders who have completed the course.

## SUPPORT SYSTEM

The course is supported in several ways.

- (1) Review committees assure that the technical content is appropriate and up-to-date.
- (2) Geographically dispersed "District Training Officers" oversee the operation. Course advisors are available at each branch. They are content specialists in one or more of the modules under study and are available for consultation with learners whenever there is difficulty with any part of a module.
- (3) Senior executives of the bank support the course and are requiring all of the bank's commercial loan officers to be certified in Commercial Lending I.

COURSE TITLE: Cosmetology

NAME OF FACILITY AND ADDRESS: Moro Beauty College  
124 N. Brand Blvd.  
Glendale, CA 91203

CONTACT PERSON: Michael David Moro

PHONE NUMBER: (213) 246-7376

TYPE OF FACILITY WHERE COURSE IS OFFERED: Proprietary School

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 1600

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 31

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 10

APPROXIMATE TOTAL ENROLLMENT: 80

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Our "job analysis" relates to duties performed by licensed cosmetologists under the California Cosmetology Act. Also included are current fashion services desired by the public. The components of the duty objectives are segmented and isolated before "re-linking" to performance objectives.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Students are introduced to salon-type experiences after approximately 200 hours of training. Patrons receive services that include the ten performance objectives required for competence in cosmetology. Validation of the student's competence is customer satisfaction and repeated requests for the student's services.

## INSTRUCTIONAL DELIVERY

Beginning students are separated from the general student body and are taught a brief familiarization course which includes the 31 tasks that bring them to an entry level. This allows them to practice in the patron clinic. Such practice, in addition to related instruction, brings the student to the mastery or competency level using open entry/open exit techniques.

## STUDENT TESTING PROCEDURES

Criterion referenced testing is utilized. Written examinations requiring homework preparation are required. Students critique their own practical work through the use of TV and video cassettes.

## COURSE EVALUATION

Since we are a Nationally Accredited Beauty School, the Cosmetology Accrediting Commission reviews our course and facility periodically. Employers of our students are asked to comment on their competency as well as their ability to relate with fellow workers and customers. Regular teachers' meetings are held to evaluate the progress of each student. Should a number of students fail to achieve in certain tasks or performance objectives, methods are reexamined and revised accordingly.

## SUPPORT SYSTEM

Our school is jointly administered by the owner and the Supervisor of Instruction. Five reputable beauty salon owners in the community serve as educational advisors. We meet periodically to review educational material and content and discuss standards of student competency at exit level. These advisors also appear as guest instructors. The school is privately funded and receives income from tuition.



COURSE TITLE: Sheet Metal

NAME OF FACILITY AND ADDRESS: Watts Skill Center  
840 East 111th Place  
Los Angeles, CA 90008

CONTACT PERSON: Mr. Frank Holley

PHONE NUMBER: (213) 564-4451

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 350

AVERAGE HOURS: 700

MAXIMUM HOURS: 780

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 7

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 4

APPROXIMATE TOTAL ENROLLMENT: 133

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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THE CENTER FOR VOCATIONAL EDUCATION



## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified through a job analysis conducted by a technical advisory committee consisting of industry representatives, union representatives, and instructors. The necessary skills were identified and the hours of practice necessary to attain the level of proficiency required in industry were estimated.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

From the technical advisory committee's suggestions, the course outline was developed and performance objectives were indicated. The committee meets on an annual basis to review and revise or update the course outline and performance objectives.

## INSTRUCTIONAL DELIVERY

Instruction is delivered on an open entry/open exit, individualized basis. The vocational instructor spends one hour daily teaching shop theory, blueprint reading, geometry, and shop layout; then four hours daily in the shop assisting students as they construct items using the same layout, cutting, forming, and fastening techniques used in industry. Equipment used parallels that used in industry.

## STUDENT TESTING PROCEDURES

Tests covering shop theory, blueprint reading, math, and layout occur on a weekly basis in both oral and written form. Practical application tests occur in a daily, ongoing manner as the instructor inspects and checks assigned project tasks for accuracy and craftsmanship.

## COURSE EVALUATION

Course evaluation occurs in several ways: through the technical advisory committee which meets on an annual basis; through comments and suggestions from industry representatives invited to visit and evaluate the training on an ongoing basis; and through feedback from employers and former trainees following job placement.

## SUPPORT SYSTEM

School District support involves the Superintendent down through the Deputy Superintendent, the Division Superintendent, the Administrative coordinator, the Director of Manpower Training, a Vocational Supervisor, and specific occupational specialists. State support is through the State Vocational Education Manpower Training section. A representative from the School District and one from the State meet on a monthly basis with our community advisory committee, which also includes representatives from local industry, elected officials, community organizations, and private citizens. Funding is provided by the School District budget, State, County, and Los Angeles City CETA funds.



COURSE TITLE: Shorthand

NAME OF FACILITY AND ADDRESS: Watts Skill Center  
840 E. 111th Place  
Los Angeles, CA 90008

CONTACT PERSON: Mr. Frank Holley

PHONE NUMBER: (213) 564-4451

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 3

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 3

APPROXIMATE TOTAL ENROLLMENT: 128

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☒ x

or

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## METHOD FOR IDENTIFICATION OF TASKS

Job requirements and position descriptions from business and industry were used as resources in the job analysis. Tasks are identified for the beginning steno position.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The objectives are developed from the task listing. Course evaluation assures that students learn techniques necessary to reach the standards set by business and industry for the beginning stenographer.

## INSTRUCTIONAL DELIVERY

Instruction is geared to meet the needs of students who enter the class at various times (open entry/open exit) and various levels of ability. Teaching methods include individualized instruction to single students or small groups (grouped according to entry dates and similarity of needs) through the use of teacher explanation of shorthand theory and dictation. The instruction is reinforced by programmed material on recorded tapes.

## STUDENT TESTING PROCEDURES

The student's performance is evaluated by classroom participation and responses to shorthand theory introduced by instructor, the reading of the homework assignments, frequent theory writing and identification quizzes, and transcription of dictation given by the instructor on previewed and new material. The ultimate evaluation is the ability of each student to take dictation for five minutes on unpreviewed (new) material at the minimum rate of 80 words a minute and transcribe with 95% accuracy.

## COURSE EVALUATION

The course is continually evaluated by the instructor, placement officer, and educational counselor to maintain and keep current the teaching methods and course content. The instructor is evaluated by the principal through classroom visits and placement records of the students. The course is evaluated also through the technical advisory committee which meets on an annual basis; through comments and suggestions from industry representatives invited to visit and evaluate our training on an ongoing basis; and through feedback from employers and former trainees following job placement.

## SUPPORT SYSTEM

The Watts Skill Center has an Advisory Board made up of key personnel of various industries of the community. Representatives from industry, colleges, and state and local governmental agencies keep the instructors abreast of changes in employment standards and requirements as well as inform and direct our placement personnel to future employment openings for the students. Funding occurs through the School District budget, State, County, and Los Angeles City CETA funds.

COURSE TITLE: Vocational Office Training

NAME OF FACILITY AND ADDRESS: Adult School of Business  
914 Fourth Street  
Clovis, CA 93612

CONTACT PERSON: Robert W. Fuller

PHONE NUMBER: (209) 299-4367

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:     x    

NUMBER OF COMPETENCIES (tasks): ---

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 218

APPROXIMATE TOTAL ENROLLMENT: 241

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified by analyzing the level of skill needed for each occupation. Performance objectives were developed by using the California Business Education Program Guide, the D.O.T., and consulting our Advisory Committee.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed by using California's Business Education Program Guide, and the D.O.T. They were validated by the Advisory Committee.

## INSTRUCTIONAL DELIVERY

Instruction is delivered via printed modules, audio-visual equipment, mini courses, individual help, and peer instruction in an open entry/open exit format.

## STUDENT TESTING PROCEDURES

The majority of testing is written (performing exercises similar to those completed while progressing through modules). Some testing is done by performance, such as duplicating processes and staffing the receptionist desk after completion of telephone techniques module. Testing on equipment is on a timed basis.

## COURSE EVALUATION

Course evaluation and revision are mainly accomplished by instructors involved in the program. Input is considered from former students and employers of former students, the needs of the community, the Advisory Committee, and administration's suggestions.

## SUPPORT SYSTEM

The Bureau of Business Education, school administration, local employers, and advisory committee provide support for the program. Funding is through state and local funds.

CONNECTICUT

COURSE TITLE: Pre-Employment Shielded Metal Arc Welding

NAME OF FACILITY AND ADDRESS: Ambit Welding Facility  
Industrial Drive  
Groton, CT 06340

CONTACT PERSON: John T. Latham

PHONE NUMBER: (203) 446-2928

TYPE OF FACILITY WHERE COURSE IS OFFERED: Industry

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 280

AVERAGE HOURS: 320

MAXIMUM HOURS: 360

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 9

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 2

APPROXIMATE TOTAL ENROLLMENT: See "Instructional Delivery"  
on next page.

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks were identified through interviews with cognizant welder first line supervisors.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The performance objectives were defined by a Welding Engineering Welder Qualification procedure and integrated with the job task information. Validation is success with practical application on test pieces.

## INSTRUCTIONAL DELIVERY

The instruction is divided into three modules utilizing videotape, films, slides, lecture method, and practical demonstration. Classes have no more than 12 students.

## STUDENT TESTING PROCEDURES

Student testing is practical and they must demonstrate their skills on various weld configurations. Written tests for general knowledge are also administered.

## COURSE EVALUATION

All curriculum is reviewed and revised by the cognizant instructors, the school supervisor, operations representatives, and Welding Engineering representatives. Each student also critiques the program.

## SUPPORT SYSTEM

The funding is a combination of General Dynamics, Electric Boat Division, overhead monies, and CETA support.



FLORIDA



COURSE TITLE:      Cashiering for Sales People

NAME OF FACILITY AND ADDRESS:      Westside Vocational-Technical Center  
731 East Story Road  
Winter Garden, FL 32787

CONTACT PERSON:      Melanie J. Parks

PHONE NUMBER:      (305) 656-2851, ext. 21

TYPE OF FACILITY WHERE COURSE IS OFFERED:      Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:        x  

NUMBER OF COMPETENCIES (tasks):      85

NUMBER-OF TERMINAL PERFORMANCE OBJECTIVES:      35

APPROXIMATE TOTAL ENROLLMENT:      15

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks were identified through a search of the needs of the local retailers. This was accomplished through advisory council work. The instructor's own expertise in this area was used as a source, as well as that of other instructors. Books and manuals already in print were a point of reference.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed by the instructor from the tasks identified. They were validated by local retailers, former students and the instructor's knowledge.

## INSTRUCTIONAL DELIVERY

Instruction is delivered on an open entry/open exit basis. It is individualized and self-paced. Upon entry into the course the student is shown the competencies for the course and then proceeds through varied methods of instruction to meet each competency. Films, programmed instruction, and practice problems on NCR 250 and 280 electronic terminals, and standard class 24 registers, are among the methods of instructional delivery.

## STUDENT TESTING PROCEDURES

The course is divided into nine broad areas, each with its own set of performance objectives and competencies. The student is evaluated when he determines his readiness. All evaluation is strictly performance-based excluding basic studies, cashier math and merchandising. A student progress record is kept with completion dates filled in as the student demonstrates competence in the areas.

## COURSE EVALUATION

The mainstay of the course evaluation is the advice of students who complete the course (or complete enough to gain a marketable skill) and are on-the-job. They provide invaluable feedback on course effectiveness and the needed competencies on the job.

## SUPPORT SYSTEM

The program was originally funded in 1974 with Federal money for disadvantaged adults. It is presently funded through internal school accounts and the County Board of Instruction.

COURSE TITLE: Machine Shop

NAME OF FACILITY AND ADDRESS: Mid-Florida Technical Institute  
2900 West Oak Ridge Road  
Orlando, FL 32809

CONTACT PERSON: John Palowitch

PHONE NUMBER: (305) 855-5880, ext. 38

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒ x

NUMBER OF COMPETENCIES (tasks): 186

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 186

APPROXIMATE TOTAL ENROLLMENT: 67

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☒ x

or

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks were originally identified by the instructor using his many years of experience in the industry as a reference. Now that Vocational-Technical Education Consortium of States (V-TECS) catalogs are available which contain validated tasks performed by incumbent workers in machine shops, the LAPs (Learning Activity Packets) are being rewritten based upon the 186 performance objectives specified in the V-TECS catalog.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The performance objectives were developed by the instructor as an integral part of each LAP. The LAPs contain a statement of operation (which may be defined as a task), specification of tolerances or standards for the operation, a list of steps necessary to achieve the operation, and a list of necessary reference materials and equipment needed. These evolved from the instructor's work with "process sheets" in industry, which are similar to the performance objectives and performance guides contained in V-TECS catalogs.

## INSTRUCTIONAL DELIVERY

Students enter when vacancies occur. Instruction is delivered by individual Learning Activity Packages and teacher assistance. Students prepare a goal statement and receive only that portion of the course necessary to satisfy their goals. Students are assisted in job placement as they achieve competencies. Placement of course completers presents no difficulty; industry needs are greater than the number of persons completing the program. As students are placed on jobs, openings for new students appear.

## STUDENT TESTING PROCEDURES

Students' written work on the "must knows" are graded from prepared answer sheets. Students' performance of tasks are graded either acceptable/not acceptable by measuring completed parts for correspondence to blueprint specifications and tolerances.

## COURSE EVALUATION

The course is constantly evaluated by periodic review of the advisory council, and feedback by employers of students. The instructor was selected to be one of the demonstration teachers in competency-based education for the State of Florida. The 17 demonstration teachers meet each quarter to work on strategies for material development, program development, and in-service training of other staff members.

## SUPPORT SYSTEM

The course is part of the public school system. Funding is 80 percent state, 16 percent local and 4 percent federal. State funding is based on Full-Time Equivalent (FTE) student hours. Nine hundred student hours per year = \$746.00 of state support to the local school system. Placement, equipment needs, and program content are facilitated by the Orlando area employers serving on the advisory committee.

COURSE TITLE: Nursery Operations

NAME OF FACILITY AND ADDRESS: Manatee Area Vo-Tech Center  
5603 34th Street, West  
Bradenton, FL 33505

CONTACT PERSON: Royce Williams

PHONE NUMBER: (813) 755-2641, ext. 266

TYPE OF FACILITY WHERE COURSE IS OFFERED: Vocational-Technical Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 540

AVERAGE HOURS: 900

MAXIMUM HOURS: 1080

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 184

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 82

APPROXIMATE TOTAL ENROLLMENT: 42

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Many of the tasks were taken from the Vocational-Technical Education Consortium of States (V-TECS) catalogs with additional input from our Advisory Committee.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed by the instructional staff working with input from the Advisory Committee and administration.

## INSTRUCTIONAL DELIVERY

Individualized instruction is used a great deal with students learning at their own pace. Visuals, tapes, live materials, teacher demonstrations, and peer grouping are used.

## STUDENT TESTING PROCEDURES

Students are tested by checking tasks through student and teacher proctor systems. Very few paper tests are used. Students are tested on their performance.

## COURSE EVALUATION

Periodic program review is used as an evaluation tool. The Advisory Committee is informed and aware of the course of instruction and along with the instructor is constantly reviewing and revising the course.

## SUPPORT SYSTEM

We received FTE (full-time equivalency) funding from the State in Category II. Funds are based on an enrollment plus category formula. Our Advisory Committee supports the program actively.

COURSE TITLE: Professional Checker Training

NAME OF FACILITY AND ADDRESS: Mid-Florida Technical Institute  
2900 West Oak Ridge Road  
Orlando, FL 32809

CONTACT PERSON: Patricia C. Foreman

PHONE NUMBER: (305) 855-5880

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 83

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 108

APPROXIMATE TOTAL ENROLLMENT: 176

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Established procedures for grocery checking were identified and compared to criteria set-up in the NCR-SMI-DE Supermarket Checker Education Course. The instructor then incorporated suggestions from the corporate level of the industry, consumer advocates, and purveyors of equipment through their participation on the Advisory Committee. Tasks that strengthened career goals and group working experiences were identified.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were written to correspond with the tasks identified. Since many tasks in the checker's job are either right or wrong, a "pass-fail" grading system is used. When working with customers and large sums of money, being correct is the only acceptable action. Actions that demonstrate credibility and inspire confidence were considered part of the acceptable performance.

## INSTRUCTIONAL DELIVERY

Open entry/open exit is the format. Common areas are introduced in open segments with competencies to be developed either in programmed learning booklets or exercises, or with small group discussions led by the instructor and advanced students. There is lab experience with NCR 5 mechanical registers and ECR 200 NCR registers. There is opportunity to work with closed circuit VTR. Students do reports on store visits to develop their critical ability and allow them to recognize and understand the varying degrees of excellence in the local grocery stores. There is considerable work on a Work Search Folder assigned to help the student get the best possible available position, or to help him create a good job. Films, filmstrips, overheads, and current media are all utilized in all segments of this training. Peer group teaching is an important part of the learning process; there is opportunity for every student to gain skills in training.

## STUDENT TESTING PROCEDURES

In the lab students demonstrate routines depicting various tasks and thus utilize the performance objectives, with appropriate evaluation by the peer group and instructor recorded. This evaluation skill is also an important bonus in the training program of each student. A Work Search Folder complete with references, a Work Data Sheet, picture, samples of finished work with scores showing employability and accuracy, and a work record is an integral part of the final requirements. Exercises and programmed workbooks must be completed correctly. Store reports must be completed demonstrating actual store visitations. A price-breaking test must be completed in a 20-minute time period with 100% accuracy. Students must score 85% correct on the final examination.



## COURSE EVALUATION

The course has been evaluated by members of the Advisory Committee regularly and upgrading is constantly in force. It was evaluated by the Southern Association of Colleges and Schools in 1975 and is evaluated every year by the school administration. With new techniques emerging and constant change in the industry, we are constantly being challenged to stay ahead of the current task and job criteria to insure students will be able to adapt and stay in the career field.

## SUPPORT SYSTEM

The Advisory Committee is made up of corporate level grocery industry people. They are personnel directors, training directors, supervisors, specialists, advertising people, safety and security people. These industry people represent chains, convenience stores, supermarkets, cooperatives, and independents. We also have an industry person who is the editor of the statewide grocery bulletin, a person from the State Department of Agriculture (chairman of the Committee), and a person from the U. S. Department of Agriculture in the Good Stamp Division. School personnel serving include an adult distributive education supervisor, a state regional distributive education supervisor, a university teacher trainer, a local school administrator, the instructor, and an instructor from another program. Initial funding was on Federal grant, and subsequent funding is based on full-time equivalent earnings of the class.

COURSE TITLE: Secretarial

NAME OF FACILITY AND ADDRESS: George Stone Vocational-Technical  
Center  
Adult Evening Program  
Rte. 10, Box 530, Longleaf Drive  
Pensacola, FL 32506

CONTACT PERSON: Susie Hamilton

PHONE NUMBER: (904) 455-8525

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: 1250

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 162

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 13

APPROXIMATE TOTAL ENROLLMENT: 20

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Terminal performance objectives were given in the Vocational-Technical Education Consortium of States (V-TECS) catalog for Secretarial Occupations, and enabling objectives were written to compliment many of the terminal objectives.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The V-TECS catalog for Secretarial Occupations was used to write the enabling objectives.

## INSTRUCTIONAL DELIVERY

The school operates on the open entry/open exit concept. Students are introduced to units in the course by programmed tapes and individualized instruction. Students move at their own pace and are guided by the classroom curriculum which details the competency-based objectives and the desired step-by-step performance.

## STUDENT TESTING PROCEDURES

Each student is tested periodically during any given duty and also at the end of each duty (there are 14 duties in all).

## COURSE EVALUATION

The Florida State Department of Education reviews the program every three years. Constant revision is being made to the program in order to stay abreast with the business world.

## SUPPORT SYSTEM

The Advisory Committee keeps the business department well informed on current community needs. The funding base for the program is the Florida Educational Finance Program.

COURSE TITLE: Typewriting

NAME OF FACILITY AND ADDRESS: Collier County Vocational-Technical  
Center  
3702 Estey Avenue  
Naples, FL 33940

CONTACT PERSON: Mrs. Catherine L. Etterman

PHONE NUMBER: (813) 774-6635

TYPE OF FACILITY WHERE COURSE IS OFFERED: Vocational Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒

NUMBER OF COMPETENCIES (tasks): 86

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 12

APPROXIMATE TOTAL ENROLLMENT: 120

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified through consultation with the Advisory Committee members, textbooks, and other reference sources. Instructor experience, both as a teacher and as an office worker, was relied upon for additional input.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

A set of objectives compiled by the Florida State Department of Education was utilized and revised to fit this program. Advisory Committee members and other contacts in the employment area were also consulted.

## INSTRUCTIONAL DELIVERY

Individualized job sheets that correspond to the textbook used in class were developed by the instructor. The students advance through the job sheets on an open entry/open exit basis. Each student's work is individually analyzed each day before the next lesson/job sheet is assigned. Tapes were made to correlate with the job sheets and the text.

## STUDENT TESTING PROCEDURES

Testing consists of taking timed writings (since the business world insists that they be used as a criterion for job entry) on straight copy and of timed production measurement.

## COURSE EVALUATION

Revisions are made constantly as program needs are updated. The instructor is chiefly responsible for course evaluation, since she is the only instructor in the department at the present time. Journals that describe the newest techniques in the field and texts that are new on the market provide ideas for revision.

## SUPPORT SYSTEM

In Florida, funding is based on full-time student equivalency. As yet, the course has not received full funding based on the units generated. The advisory group guides and assists the instructor in whatever way it can. Presently, it serves as a community contact to report on innovations in the field and to provide community rationale for the program.

COURSE TITLE: Typewriting: Basic, Intermediate, and Advanced

NAME OF FACILITY AND ADDRESS: Tomlinson Adult Education Center  
296 Mirror Lake Drive  
St. Petersburg, FL 33701

CONTACT PERSON: Mrs. Grace B. Tadlock

PHONE NUMBER:

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 382

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 91

APPROXIMATE TOTAL ENROLLMENT: 319

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Courses are developed as the need for certain skills is indicated. These needs are derived from direct contact with employers (letter, phone, personal), from annual surveys of the business community, from employment agencies, and student interviews for employment. Also, each business teacher in the county system spends a full day in a business office (observing and talking with workers and personnel directors). The information received is shared, giving a broad overview of the business community needs.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Each performance objective is composed of performance, conditions, and criteria. Performance states what the learner will be able to do after mastery. Conditions identify all limits of circumstances under which the student will perform. Criteria identify the minimum standards the student must meet. Validation is assured by acquiring an accurate listing of skills needed for the job. The list was compiled from the V-TECS catalog, the Dictionary of Occupational Titles, advisory committee recommendations, and county-wide occupational titles.

## INSTRUCTIONAL DELIVERY

Each student is given a course outline which includes required competencies, assignment sheets, and contracts for his/her individual situation. Students with previous typing training complete evaluation projects to determine at what level they will begin. Students can be exempted from additional work when they meet the competency requirement for a given area. Assignments are based on, and are altered to meet, individual needs. Modules, taped materials, special drills, filmstrips, datypes, individual and group demonstrations, self-evaluation forms, films, and individual instruction are some of the methods used in teaching. The text includes specific goals for each lesson and has a related workbook.

## STUDENT TESTING PROCEDURES

Student testing involves: evaluation tests for placement level, pre- and post-tests for lessons, and a test prep (which may exempt the student from the final test) at the end of each part of the text. All tests are criterion-referenced. In addition, all production work must be "mailable." Tests include production work, both timed and untimed.

## COURSE EVALUATION

Ongoing formative and summative evaluation procedures are used. The instructor, administrator, supervisor, advisory committee, and state curriculum delivery system personnel all have input. But the actual revision is performed by the instructor.



## SUPPORT SYSTEM

These individualized, open-ended courses are part of the Business Education Department of Tomlinson School, a post-secondary institution for training adults to become employable--part of the Pinellas County School System, supported by the State of Florida. Advisory Committees (both school and county) include representatives from a broad range of the business and industrial community.



GEORGIA

COURSE TITLE: Civil Technology (Surveying)

NAME OF FACILITY AND ADDRESS: Atlanta Area Technical School  
1560 Stewart Ave., S.W.  
Atlanta, GA 30310

CONTACT PERSON: John M. Collum, Jr.

PHONE NUMBER: (404) 758-9451

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Vocational/Technical School

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒ x

NUMBER OF COMPETENCIES (tasks): 41

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 10

APPROXIMATE TOTAL ENROLLMENT: 30

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified by a combination of (1) advisory committee suggestions, (2) personal experience in field, (3) examination of workers in field, (4) Dictionary of Occupational Titles, and (5) correspondence with other programs across the United States.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Objectives were developed primarily by examination of workers in the field with input from the Advisory Board. Validation is still going on by feedback from graduates and input from employers.

## INSTRUCTIONAL DELIVERY

Learning is the sole responsibility of the student in this open entry/open exit program. Each student uses his/her own critical path flow chart to maximize learning options each day. Resources include a classroom library, instructors, peer instruction, audio-visuals, and occasional small lecture groups. Students are interviewed weekly to review the past week's work, update time-lines, and plan the current week's work.

## STUDENT TESTING PROCEDURES

Students are tested weekly by means of written tests, oral quizzes, timed field tests, and precision of group fieldwork. Primary emphasis is placed on group field results and proper notekeeping.

## COURSE EVALUATION

Program evaluation consists of input from (1) graduates employed in the field, (2) employers, (3) an Advisory Committee, (4) professional surveying societies, and (5) the school's Instructional Development Center. Program revision will occur once a year.

## SUPPORT SYSTEM

The program receives support from the local Advisory Committee, the school's Instructional Development Center, and the Coordinator of Construction Trades. Funding consists of 50 percent federal and 50 percent state monies, with local supplements appropriated for salary, maintenance and operation, and additional support personnel.

COURSE TITLE: Computer Programming and Operations

NAME OF FACILITY AND ADDRESS: Control Data Institute  
3330 Peachtree Road, Suite 250  
Atlanta, GA 30326

CONTACT PERSON: Frank Syster  
PHONE NUMBER: (404) 261-7700

TYPE OF FACILITY WHERE COURSE IS OFFERED: Proprietary School

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 600

AVERAGE HOURS: 650

MAXIMUM HOURS: 700

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 180

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 180

APPROXIMATE TOTAL ENROLLMENT: 72

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

As a major manufacturer of computers, Control Data Corporation has strong ties with the computer industry. This expertise along with input from the employers of graduates (NCR, Honeywell, IBM, and DEC) was utilized in identifying tasks.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The curriculum developers, instructors, and graduate services personnel used the data gathered from the above industries, and were able to specify objectives that would allow graduates to fill the needs of the industry.

## INSTRUCTIONAL DELIVERY

Modules which are broken down into units of individualized instruction are utilized. Color videotape, Filmosound, and the Cyber 18 Computer are used in the modules.

## STUDENT TESTING PROCEDURES

Pre-testing to determine prior knowledge, self-progress checks at the end of each unit, and post-tests at the end of each book are administered. Methods include multiple-choice questions, objective projects, and open book, timed modular tests.

## COURSE EVALUATION

The course is continually reviewed and revised by the instructor, students, and supervisor of education, working in conjunction with curriculum developers, industry associations, and employers of graduates.

## SUPPORT SYSTEM

Continuous interaction with the employers of graduates, customer engineers, data processing associations, and the Alumni Association provides advisory assistance. Access to Control Data's 40,000 employees and assets provides the support necessary.

IDAHO

73

72

COURSE TITLE: Machine Shop Program

NAME OF FACILITY AND ADDRESS: RFC Building  
School of Vocational-Technical  
Education  
Idaho State University  
Pocatello, ID 83209

CONTACT PERSON: Robert W. Simmons

PHONE NUMBER: (208) 236-3262

TYPE OF FACILITY WHERE COURSE IS OFFERED: University

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 720

AVERAGE HOURS: 7200

MAXIMUM HOURS: 9600

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 161

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 161

APPROXIMATE TOTAL ENROLLMENT: 76

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified from job descriptions as shown in the Dictionary of Occupational Titles with the assistance and approval of the machine shop advisory committee members representing seven (7) local industries that employ ISU Machine Shop graduates.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The performance objectives were developed from the job analysis and correlated to the basic tasks required in each course as approved by the members of the advisory committee.

Each terminal objective specifies the machine or station, tool or equipment, and the measurable degree of accuracy required, whether it be to blueprint specifications or to the instructor's satisfaction. The course outline has been approved by the advisory committee.

## INSTRUCTIONAL DELIVERY

All machine training operations are performed on machines similar in size, construction, and operation to those machines found in the local machine shops. Included are the machines used for the manufacture of large mining equipment. Tooling used for training on the cutting operations is at least equal to that used in local machine shops.

The Machine Shop Program is designed to accept new students twice a year (August and January). Students with previous experiences in the machine shop can progress in segments of eight-week intervals at their own pace.

In the Advanced Shop, the student may enter at the beginning of any one of five eight-week sessions per year depending on their abilities. Additional time may be needed by some students to complete the performance objectives. Some of the more difficult machines involve individual instructional modules requiring research by the student prior to any hands-on operation of the machine. Under these conditions, the student's progression and completion is in direct ratio to his/her interest and abilities.

Additional time is allotted for those students who are not capable of completing the tasks within the average allotted times. Slow learners or those less mechanically inclined generally are able to complete a less complicated program option, such as Machine Tool Operator, Heavy Duty Machine Operator, or Production Machine Operator. Students who do poorly in math, theory, or blueprint reading assignments may obtain remedial help in their problem areas at a time that does not interfere with the required lab or class hours.

## STUDENT TESTING PROCEDURES

Student performance for each certificate option is evaluated by the tasks successfully completed as required by the terminal performance objectives. Most machining operations are performed by the student while manufacturing

a machined part to print specifications. Therefore, upon completion of a part it is inspected to print specifications and tolerances.

The student is graded on individual homework assignments for each machine. Additional testing includes daily oral quizzes on machine operations, tooling and set up procedures, and written examinations following the completion of all performance objectives required for each course.

## COURSE EVALUATION

Although this curriculum has been in effect less than one year, it is being continually upgraded. In some instances, tasks are being revised or eliminated and others are being added. All courses have been taught at least once and have had or are in the process of revision or correction at this time.

Video tape teaching aids are being added. Some are in-house productions and others are reproduced from available film (with the authorization of the producer).

ISU Machine Shop faculty attend vocational education classes designed to assist in the upgrading of the courses. Staff members attend workshops and machine tool shows, visit local and out-of-state industries, and meet annually with the advisory committee.

At the present time the staff is conducting in-shop and plant visits with the management of local industry and student graduates to gain information on methods to improve curriculum, machinery operations, and program options.

## SUPPORT SYSTEM

Physical facilities, buildings, and maintenance are furnished through the University's appropriation from general funding to higher education. Scholarships are distributed from the general scholarship fund. Salaries, capital equipment, and operating expenses are provided by a specified appropriation from the state which is matched with federal vocational education funds. Special funding, especially for new and expanding programs, is provided in the form of grants from government and private agencies. Donations of equipment and materials are also received from government agencies and private firms. At the University level, the Director of the School works with the University President and staff to administer local policy and budget. The responsibility of the advisory committee is to advise on curriculum changes, recruitment, and employment matters.

ILLINOIS



COURSE TITLE: Transcribing Machine Operation

NAME OF FACILITY AND ADDRESS: Cairo-Egyptian Adult Center  
1615 Commercial Avenue  
Cairo, IL 62914

CONTACT PERSON: Patricia Orsburn

PHONE NUMBER: (618) 734-4214

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒ x

NUMBER OF COMPETENCIES (tasks): 6

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 1

APPROXIMATE TOTAL ENROLLMENT: 21

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☒ x

or

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## METHOD FOR IDENTIFICATION OF TASKS

Major categories were listed in the sequence of learning. A step-by-step procedure was listed for each category. These tasks were based on textbooks, instructions from manufacturers of transcribing machines, field trips, and formal talks and discussions with users of these machines.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed for each category based on the conditions, time limit, and performance expected (outcome). These were validated by the comparison of the instructor's expectations to the student's actual performance of the tasks.

## INSTRUCTIONAL DELIVERY

This is an open entry/open exit center, so a student is usually in this department (Office Occupations) all day and may spend 1-4 consecutive hours on any one unit a day, depending on a good "breaking point" between units. He/she may be taking office machines, shorthand, typing, and bookkeeping in the course of the day, but does not have to stop at a given time on a unit. The instruction is given and machine is demonstrated by the instructor initially, and other students may help tutor the student in learning this course. A booklet giving step-by-step directions is given him/her at the beginning.

## STUDENT TESTING PROCEDURES

A progress report (evaluation of performance) lists the same six major categories as those listed on the "Sequence of Learning" chart. Under each major category are listed specific competencies which correlate to those also listed in the "Sequence of Learning" chart. Two columns headed, "Satisfactory" and "Excellent" are listed in the margin with appropriate places to mark each competency. These are used to determine if the student has met the terminal behavioral (performance) objective previously given and discussed.

## COURSE EVALUATION

Since this Center has an open entry/open exit policy, this course is individualized. Therefore, only the individual student and instructor are involved. Student suggestions upon course completion, observation and comments from transcribers during field trips, and community surveys are used for improvement and course revision.

## SUPPORT SYSTEM

The Center has local, state, and federal funding based on legislative allotments. Programs are under supervision and recommendations from the local school administration, two school boards, and community involvement. The vocational center serves adults in three counties, so there is a heavy commitment to all three counties and all participating agencies.



INDIANA.

COURSE TITLE: MUST (Midwestern United Sales Track) Workshop

NAME OF FACILITY AND ADDRESS: Midwestern United Life Insurance Co.  
7551 U.S. Hwy. 24 West  
Fort Wayne, IN 46804

CONTACT PERSON: Len Corcoran

PHONE NUMBER: (219) 432-1551

TYPE OF FACILITY WHERE COURSE IS OFFERED: Business

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 15

AVERAGE HOURS: 15

MAXIMUM HOURS: 15

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 6

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 6

APPROXIMATE TOTAL ENROLLMENT: 16

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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85

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified through (1) industry surveys, (2) discussions with managers, (3) analysis of activity reports, and (4) analysis of compensation reports.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives evolved from education and skill sessions. They were validated by comparing compensation reports before entry versus after exit.

## INSTRUCTIONAL DELIVERY

Total instruction occurs within a 2½ day, 15-hour time restraint. However, the modules are flexible within this period. Each module has a different format. Practice selling, video cassette, and written and oral verification are utilized.

## STUDENT TESTING PROCEDURES

Periodically a blank overview is completed. The degree of completion is scored by a leader. Skills are determined by evaluation of peers, after a practice selling experience which has been videotaped. Students evaluate themselves after a day's interval.

## COURSE EVALUATION

Students evaluate the course and revisions are considered after a review of these evaluations.

## SUPPORT SYSTEM

Managers are invited to participate. Seminars are also held for groups of managers, in which implementation and support ideas and techniques are exchanged.



IOWA

87

82

COURSE TITLE: Blueprint Reading for the Machine Trades

NAME OF FACILITY AND ADDRESS: Vocational and Adult Education  
Clinton Community School District  
8th Ave. S. & 9th St.  
Clinton, IA 52732

CONTACT PERSON: James R. Law, Director

PHONE NUMBER: (319) 242-2141

TYPE OF FACILITY WHERE COURSE IS OFFERED: Industry

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 46

AVERAGE HOURS: 63

MAXIMUM HOURS: 220

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 24

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 24

APPROXIMATE TOTAL ENROLLMENT: 20

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

Supervisory personnel in the Waukesha Engine Division, Dresser Industries, discovered that a number of employees could not read a blueprint. Further investigation revealed that the same employees were weak in machine shop mathematics. Pre-testing was utilized to determine how much and what type of training was needed to bring the employees up to industry standards.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed for the skills indicated in the pre-testing. After the student reached mathematics standards he was taught orthographic projection and other views through basic models and sketching. Then the students learned blueprint reading with a textbook and real prints.

## INSTRUCTIONAL DELIVERY

The instruction is individually administered. Students can enter the course whenever there is an opening and exit when they are competent in reading machine drawings. Some students finish the course in six weeks while others need up to 22 weeks. Instructors work with one to five students for two-hour sessions.

## STUDENT TESTING PROCEDURES

Students are given written tests in math including addition, subtraction, multiplication, division, decimals, fractions and their decimal equivalents, and whole and mixed numbers. Models, sketching, views and isometrics are evaluated through daily workbook assignments. Final evaluation involves sketching objects and reading company blueprints.

## COURSE EVALUATION

The quality of the course is evaluated by the students' performance on the job as observed by their foremen. Their suggestions were incorporated into the course by the advisory group and the instructors. Because of the student's training set-up time and excess scrap materials were cut at the manufacturing plant. Foremen no longer had to spend extra time giving instructions. The plant changed its training procedures to offer the course annually.

## SUPPORT SYSTEM

The course is jointly sponsored by the Waukesha Engine Division, Dresser Industries, 1812 S. 4th, Clinton, Iowa 52732, and the state, with the industry providing 60 percent of the funds and the state 40 percent. Administration is provided by the State Department of Public Instruction. The company furnishes textbooks and other necessary instructional materials.



KANSAS.

COURSE TITLE: Propeller Repairman Course III

NAME OF FACILITY AND ADDRESS: Cessna Aircraft Company  
International Training Academy  
7603 East Pawnee Road  
Wichita, KS 67207

CONTACT PERSON: Frank G. Mitchell

PHONE NUMBER: (316) 685-9111, ext. 4696

TYPE OF FACILITY WHERE COURSE IS OFFERED: Company Training Facility

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 144

AVERAGE HOURS: 175

MAXIMUM HOURS: 195

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 31

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 128

APPROXIMATE TOTAL ENROLLMENT: 25

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified by analyzing the propeller manufacturer's service manuals and field service letters. Instructor experience and detailed observations of the tasks as performed by experienced workers at the factory and at field service locations were considered.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Base data were the service repair specifications of the propeller manufacturer's service manuals and requirements of the Federal Aviation Regulations.

## INSTRUCTIONAL DELIVERY

Twenty-five percent of the course is spent in the classroom and 75 percent in a laboratory which offers "hands on" application. The course is divided into specific sections that cover in detail particular models or subparts of propellers. Classroom sessions are lecture using 35mm slides and discussion on the process of propeller disassembly, inspection, repair, assembly, and testing. Laboratory work is organized into two-man teams to perform the process tasks covered in the classroom with the aid of project worksheets and actual equipment. Each section of the course must be completed before progressing to the next section. Several sections are taught by the demonstration method according to available time, student competency level, and complexity of equipment.

## STUDENT TESTING PROCEDURES

Students are given a pre-test and a final test. The pre-test is used to help determine student knowledge level. The final test grade is recorded. Class and laboratory projects are a form of testing, although not graded. Each project is reviewed in detail as completed providing immediate evaluation and feedback. Final test minimum pass score is 70 percent.

## COURSE EVALUATION

Along with test scores, student critiques are completed for supervision review. The Academy Supervisor evaluates the Instructor twice each year on his classroom and laboratory instruction. FAA technical officials also monitor the course periodically and the propeller manufacturer and the Cessna Service Department review the curriculum and lesson plan yearly.

## SUPPORT SYSTEM

Advisors internally are representatives of the propeller manufacturer and Cessna Service Department. External advisors are utilized from the local, regional, and national offices of the FAA. The International Training Academy provides the administration and budget as a company support program.

KENTUCKY

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95.

88:

COURSE TITLE: Introduction to Office Machines

NAME OF FACILITY AND ADDRESS: Manpower Training Center  
877 East 11th Street  
Bowling Green, KY 42101

CONTACT PERSON: Bill Moore

PHONE NUMBER: (502) 781-3356

TYPE OF FACILITY WHERE COURSE IS OFFERED: Manpower Training Center  
(CETA)

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPE. ENTRY/OPEN EXIT: \_\_\_\_\_ x

NUMBER OF COMPETENCIES (tasks): 28

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 7

APPROXIMATE TOTAL ENROLLMENT: 53

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified from a personal survey involving questions and observations while on a "work awareness" assignment. Certain tasks were chosen as being essential for the majority of clerical occupations while others were chosen as desirable. Problems were designed to give the student a "job-entry level" of performance.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Textbook publishers' suggestions were used and revised as experience proved necessary in developing objectives.

## INSTRUCTIONAL DELIVERY

The program is open entry/open exit. Students view an introductory filmstrip in individual viewing stations. The teacher demonstrates the machines and students are given programmed units with operating instructions. Teacher help is available as requested. A Machines Practice Set follows for application and reinforcement of skills, including payroll, invoice extensions, and so forth.

## STUDENT TESTING PROCEDURES

Students are tested mid-way and at the completion of jobs performed on each machine. Prior to this students work problems and submit answer sheets until they achieve 100 percent accuracy. Tests consist of sample problems; they are timed and graded.

## COURSE EVALUATION

Revision occurs as data are received from a craft committee considering the community's needs, from coordinators and other instructors on latest equipment and trends, and from student "feedback" on follow-up forms questioning the value of their training.

## SUPPORT SYSTEM

Program curriculum is evaluated by craft committees and other advisory groups. Information is received from a follow-up study. The prime funding sponsor is the CETA (Comprehensive Employment and Training Act) program.

LOUISIANA

COURSE TITLE: Nursing Physical Assessment: A Short Course

NAME OF FACILITY AND ADDRESS: Northwestern State University  
College of Nursing  
Division of Continuing Education  
1427 Kings Hwy., Room G-10  
Shreveport, LA 71103

CONTACT PERSON: Dr. Helen L. Ferguson

PHONE NUMBER: (318) 227-9879

TYPE OF FACILITY WHERE COURSE IS OFFERED: University

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 42

AVERAGE HOURS: 66

MAXIMUM HOURS: 90

COMPLETELY OPEN ENTRY/OPEN EXIT: for registered nurses (licensed)

NUMBER OF COMPETENCIES (tasks): 16

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 8

APPROXIMATE TOTAL ENROLLMENT: 30

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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x	x	x	x	x	x	x					



## METHOD FOR IDENTIFICATION OF TASKS

Early Periodic Screening, Diagnosis and Treatment (EPSDT) Federal Guidelines were interpreted by State level administration. The Division of Nursing, Louisiana Health and Human Resources Administration identified tasks from these Guidelines.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Knowledge, skills and attitudes necessary so as to comply with Federal Guidelines and criteria were identified. A course outline, core objectives, contributory objectives, and learner objectives were then developed. These are used to validate skills, knowledge and attitudes by pre-post tests, and testing in clinical lab and post-site evaluations.

## INSTRUCTIONAL DELIVERY

Instruction is delivered through: (1) formal didactic lectures, discussion, question-answer sessions, clinical labs under instructor's supervision; and (2) audio-visual cassettes, overhead projectors, and hand-outs of pertinent materials, such as drawings and simulators, and appropriate models.

## STUDENT TESTING PROCEDURES

Since a systems approach was used in the teaching-learning process, students were tested upon completion of each unit of formal lectures and laboratory experience. Paper-pencil tests, demonstration with return demonstrations and frequent classroom and laboratory question-answer sessions are included. Discussion time is allotted.

## COURSE EVALUATION

A planning committee was actively involved before, during, and after the short course. University administrators and professors, Louisiana Health and Human Resources administrators, and chief and assistant chiefs, Division of Nursing, LHHRA are involved.

## SUPPORT SYSTEM

Advisory groups are utilized in planning, reviewing, and revising the course to meet on-going needs of participants, and to identify and interpret mandated guidelines. Administrative support through committees, conferences and individual guidance is available when needed. Internal budget, generated funds, and Federal and State grants are supportive of our educational offerings.

MARYLAND

103

94

COURSE TITLE: Deckhand/Tankerman

NAME OF FACILITY AND ADDRESS: Harry Lundeberg School of Seamanship  
Piney Point, MD 20671

CONTACT PERSON: Mr. Charles Nalen

PHONE NUMBER: (301) 994-0010

TYPE OF FACILITY WHERE COURSE IS OFFERED: Union Sponsored

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 380

AVERAGE HOURS: 380

MAXIMUM HOURS: 380

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 93

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 93

APPROXIMATE TOTAL ENROLLMENT: 180

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Once it has been determined that a need exists for certain skills, the school begins the development of a course to meet the need. The Director, Program Coordinator, and instructors who will be teaching the course meet with representatives of the Union and the companies to clarify the type and depth of skills they feel the seafarers should possess. Selected staff members are then assigned to visit the ships or boats that the person will be working on to identify precisely the type of jobs the seafarers will be doing and the skills required. A task analysis is then performed.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

All the material gathered during the analysis phase is developed into a course outline which includes performance objectives. This outline is submitted to the Union and companies involved for comment. Any meaningful comments received on the performance objectives are incorporated into the outline.

## INSTRUCTIONAL DELIVERY

The school has large, modern classrooms for all theoretical instruction as well as a large building for shop work. The instructional objectives for classes dealing in mechanical areas are met by using the same equipment, where possible, as found in the field. For example, students in the Deckhand/Tankerman course learn on the same tugs and barges they will be working on on the rivers. Where size or price is a dominant factor, training aids, mock-ups, or smaller pieces of equipment are used instead of the actual shipboard units.

## STUDENT TESTING PROCEDURES

Student performance in this course is evaluated by student responses as indicated on homework assignments, daily quizzes, practical exercises, class participation and final examinations. Homework assignments consist of reading material with study guides on the reading material. Final examinations are combined multiple choice and performance objective examinations. The examinations are prepared by an instructor or group of instructors other than those teaching the course. Students who do poorly on homework assignments and quizzes are referred for remedial help in their problem area.

## COURSE EVALUATION

Vocational programs are constantly developed and expanded as changes in industry or Coast Guard regulations occur. The newest teaching aids and techniques have been adapted for use in the maritime field by a teaching staff which includes specialists in virtually every area of the maritime industries.

After the course has been taught several times or new technology has changed the nature of the job, staff members again visit the ships or boats and meet with Union and company representatives to update



the course. Often contact is made with the graduates who apply information on how the course relates to the job and what might be done to improve the course.

When dealing with highly technical areas, the school acquires all the instruction and operation manuals for the equipment students will be using. This allows the recommendations of the manufacturers of the equipment to be included in the course.

The school meets frequently with an Advisory Board which reviews the courses being offered and makes recommendations for improving them. The Advisory Board consists of Union and company officials as well as members of the school's staff. When courses are developed that affect only a small segment of the industry, the school meets with only those companies involved to gain guidance in the development of the course.

### SUPPORT SYSTEM

The Harry Lundeberg School is administered by a joint Board of Trustees consisting of three trustees and two alternate trustees representing the Seafarer's International Union and the contracted U.S. companies. An agreement and Declaration of Trust provides guidance to the Board of Trustees in administering the school. The President of the Harry Lundeberg School is responsible to the Board of Trustees for maintaining the policies of the trust and implementing them in educational programs.



COURSE TITLE: Lifeboatman/Able Seaman

NAME OF FACILITY AND ADDRESS: Harry Lundeberg School of Seamanship  
Piney Point, MD 20674

CONTACT PERSON: Mr. Charles Nalen

PHONE NUMBER: (301) 994-0010

TYPE OF FACILITY WHERE COURSE IS OFFERED: Union Sponsored

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 200

AVERAGE HOURS: 200

MAXIMUM HOURS: 200

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 40

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 40

APPROXIMATE TOTAL ENROLLMENT: 16

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Once it has been determined that a need exists for certain skills, the school begins the development of a course to meet the need. The Director, Program Coordinator, and instructors who will be teaching the course meet with representatives of the Union and the companies to clarify the type and depth of skills they feel the seafarers should possess. Selected staff members are then assigned to visit the ships or boats that the person will be working on to identify precisely the type of jobs the seafarers will be doing and the skills required. A task analysis is then performed.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

All the material gathered during the analysis phase is developed into a course outline which includes the performance objectives. This outline is submitted to the Union and companies involved for comment. Any meaningful comments received on the performance objectives are incorporated into the outline.

## INSTRUCTIONAL DELIVERY

The school has large, modern classrooms for all theoretical instruction as well as a large building for shop work. The instructional objectives for classes dealing in mechanical areas are met by using the same equipment, where possible, as found in the field. For example, students in the Lifeboatman/Able Seaman course operate and maintain lifeboats as well as perform seamanship skills. Where size or price is a dominant factor, training aids, mock-ups, or smaller pieces of equipment are used instead of the actual shipboard units.

In the area that requires practical training on tugs and barges, the students accomplish these objectives on the school's tugs and barges. One regular tug and one pusher tug, two deck barges and a tank barge, all of which are fully operational, are used in the courses.

## STUDENT TESTING PROCEDURES

Student performance in this course is evaluated by student responses as indicated on homework assignments, daily quizzes, practical exercises, class participation and final examinations. Homework assignments consist of reading material with study guides on the reading material. Final examinations are combined multiple choice and performance objective examinations. The examinations are prepared by an instructor or group of instructors other than those teaching the course. Students who do poorly on homework assignments and quizzes are referred for remedial help in their problem area.

## COURSE EVALUATION

Vocational programs are constantly developed and expanded as changes in industry or Coast Guard regulations occur. The newest teaching aids and techniques have been adapted for use in the maritime field by a teaching staff which includes specialists in virtually every area of the maritime industries.

After the course has been taught several times or new technology has changed the nature of the job, staff members again visit the ships or boats and meet with Union and company representatives to up-date the course. Often contact is made with the graduates who supply information on how the course relates to the job and what might be done to improve the course.

When dealing with highly technical areas, the school acquires all the instruction and operation manuals for the equipment students will be using. This allows the recommendations of the manufacturers of the equipment to be included in the course.

#### SUPPORT SYSTEM

The Harry Lundeberg School is administered by a joint Board of Trustees consisting of three trustees and two alternate trustees representing the Seafarer's International Union and the contracted U.S. companies. An agreement and Declaration of Trust provides guidance to the Board of Trustees in administering the school. The President of the Harry Lundeberg School is responsible to the Board of Trustees for maintaining the policies of the trust and implementing them in educational programs.

COURSE TITLE: Marine Electrical Maintenance

NAME OF FACILITY AND ADDRESS: Harry Lundeberg School of Seamanship  
Piney Point, MD 20674

CONTACT PERSON: Mr. Charles Nalen

PHONE NUMBER: (301) 994-0010

TYPE OF FACILITY WHERE COURSE IS OFFERED: Union Sponsored

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 220

AVERAGE HOURS: 220

MAXIMUM HOURS: 220

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 47

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 47

APPROXIMATE TOTAL ENROLLMENT: 6

\* MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Once it has been determined that a need exists for certain skills, the school begins the development of a course to meet the need. The Director, Program Coordinator, and instructors who will be teaching the course meet with representatives of the Union and the companies to clarify the type and depth of skills they feel the seafarers should possess. Selected staff members are then assigned to visit the ships or boats that the person will be working on to identify precisely the type of jobs the seafarers will be doing and the skills required. A task analysis is then performed.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

All the material gathered during the analysis phase is developed into a course outline which includes the performance objectives. This outline is submitted to the Union and companies involved for their comment. Any meaningful comments received on the performance objectives are incorporated into the outline.

## INSTRUCTIONAL DELIVERY

The school has large, modern classrooms for all theoretical instruction as well as a large building for shop work. The instructional objectives for classes dealing in mechanical areas are approached by using similar equipment, where possible, as found in the field. For example, students in the Marine Electrical Maintenance course operate and repair the same units in the shop that will be available on a ship. Where size or price is a dominant factor, training aids, mock-ups, or smaller pieces of equipment are used instead of the actual shipboard units.

In the area that requires practical training on tugs and barges, the students accomplish these objectives on the school's tugs and barges. One regular tug and one pusher tug, two deck barges and a tank barge, all of which are fully operational, are used in the courses.

## STUDENT TESTING PROCEDURES

Student performance in this course is evaluated by student responses as indicated on homework assignments, daily quizzes, practical exercises, class participation and final examinations. Homework assignments consist of reading material with study guides on the reading material. Final examinations are combined multiple choice and performance objective examinations. The examinations are prepared by an instructor or group of instructors other than those teaching the course. Students who do poorly on homework assignments and quizzes are referred for remedial help in their problem area.

## COURSE EVALUATION

Vocational programs are constantly developed and expanded as changes in industry or Coast Guard regulations occur. The newest teaching aids and techniques have been adapted for use in the maritime field by a teaching staff which includes specialists in virtually every area of the maritime industries.

After the course has been taught several times or new technology has changed the nature of the job, staff members again visit the ships or boats and meet with Union and company representatives to up-date the course. Often contact is made with the graduates who supply information on how the course relates to the job and what might be done to improve the course.

When dealing with highly technical areas, the school acquires all the instruction and operating manuals for the equipment students will be using. This allows the recommendations by the manufacturers of the equipment to be included in the course.

#### SUPPORT SYSTEM

The Harry Lundeberg School is administered by a joint Board of Trustees consisting of three trustees and two alternate trustees representing the Seafarer's International Union and the contracted U.S. companies. An agreement and Declaration of Trust provides guidance to the Board of Trustees in administering the school. The President of the Harry Lundeberg School is responsible to the Board of Trustees for maintaining the policies of the trust and implementing them in educational programs.



COURSE TITLE: Teller Training

NAME OF FACILITY AND ADDRESS: Maryland National Bank  
225 North Calvert Street  
Baltimore, MD 21203

CONTACT PERSON: Emma Exler

PHONE NUMBER: (301) 244-5438

TYPE OF FACILITY WHERE COURSE IS OFFERED: Business

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 95

AVERAGE HOURS: 108

MAXIMUM HOURS: 125

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks):

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 50

APPROXIMATE TOTAL ENROLLMENT: 163

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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THE CENTER FOR VOCATIONAL EDUCATION

## METHOD FOR IDENTIFICATION OF TASKS

When the Teller Training program was originally developed a task analysis was done. It was done by a former teller who applied her own knowledge as well as observing tellers on-the-job. She was the subject expert and was assisted in the task analysis by an outside consultant.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Once the job tasks were identified, performance objectives were written to correlate with the tasks. The objectives state the task that must be accomplished and the degree of accuracy and/or time frame in which the task must be completed. Objectives were validated based on the performance of the new tellers in the branch. Consistently above average performance indicated that we were on target with objectives. Consistent areas of weakness indicated a need to reassess objectives. Feedback from new tellers was also used. They completed questionnaires about the effectiveness of the program and indicated areas that needed more or less emphasis. This information was used to further validate objectives.

We are currently revising Teller Training and some changes will be made to our program objectives. The objectives will be revalidated by the methods mentioned above. In addition, we have done a survey to determine the frequency of transactions. This is another tool by which to measure our objectives. After all objectives are revised, they will be submitted to Branch Administration (department of Bank responsible for all branch activities) for their review.

## INSTRUCTIONAL DELIVERY

The primary method of delivery is instructor-led discussion. There is a minimal amount of reading to prepare trainees for discussions. Most of the learning time is spent in practice situations which are supervised by the instructor. There are fully equipped simulated teller windows in Teller Training. The trainees act as customers and tellers for each other in role play situations. The instructor supervises and provides constant feedback to the trainees.

## STUDENT TESTING PROCEDURES

During testing the trainee plays the role of a teller and the instructor is the customer. The instructor presents transactions for the teller trainee to process. The test transactions are matched to the performance objectives so that each objective is tested.

## COURSE EVALUATION

Evaluating and revising Teller Training is the responsibility of the Teller Training Manager. Input is gathered from instructors, line supervisors, recent trainees, tellers, and the training director. Performance of new tellers and feedback from branch managers are weighed heavily when evaluating the program. The Teller Training program was also evaluated by Federal Bank Examiners in June, 1977.



It was rated very good to excellent with no recommendations for improvement.

## SUPPORT SYSTEM

Financial Support. The Training Department has its own budget and total control over its expense approval. There are no present capital items or other budgetary needs that have been pended or refused at this time.

Management Support. The management support by the Branch Administration and the Personnel Administration (to which the Training function reports) exists at the most senior level. This has been validated by favorable comments and recommendations to continue the program.

Specifically, the Bank's support is evidenced in having both the Teller Training Manager and Director of Training appointed to an officer status. Further commitment is shown by the recommendation and approval of using Mager's Criterion-Referenced Instruction Workshop as an option for improving the methodology within Teller Training. This sizable investment in terms of time, money, and personnel continues to demonstrate support of the Teller Training function.

COURSE TITLE: Welding

NAME OF FACILITY AND ADDRESS: Harry Lundeberg School of Seamanship  
Piney Point, MD 20674

CONTACT PERSON: Mr. Charles Nalen

PHONE NUMBER: (301) 994-0010

TYPE OF FACILITY WHERE COURSE IS OFFERED: Union Sponsored

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 140

AVERAGE HOURS: 140

MAXIMUM HOURS: 140

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 37

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 28

APPROXIMATE TOTAL ENROLLMENT: 8

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Once it has been determined that a need exists for certain skills, the school begins the development of a course to meet the need. The Director, Program Coordinator, and instructors who will be teaching the course meet with representatives of the Union and the companies to clarify the type and depth of skills they feel the seafarers should possess. Selected staff members are then assigned to visit the ships or boats that the person will be working on to identify precisely the type of jobs the seafarers will be doing and the skills required. A task analysis is then performed.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

All the material gathered during the analysis phase is developed into a course outline which includes the performance objectives. This outline is submitted to the Union and companies involved for comment. Any meaningful comments received on the performance objectives are incorporated into the outline.

## INSTRUCTIONAL DELIVERY

The school has large, modern classrooms for all theoretical instruction as well as a large building for shop work. The instructional objectives for classes dealing in mechanical areas are met by using the same equipment, where possible, as found in the field. For example, students in the Welding course operate and repair the same units in the shop that will be available on a ship. Where size or price is a dominant factor, training aids, mock-ups, or smaller pieces of equipment are used instead of the actual shipboard units.

In the area that requires practical training on tugs and barges, the students accomplish these objectives on the school's tugs and barges. One regular tug and one pusher tug, two deck barges and a tank barge, all of which are fully operational, are used in the courses.

## STUDENT TESTING PROCEDURES

Student performance in this course is evaluated by student responses as indicated on homework assignments, daily quizzes, practical exercises, class participation and final examinations. Homework assignments consist of reading material with study guides on the reading material. Final examinations are combined multiple choice and performance objective examinations. The examinations are prepared by an instructor or group of instructors other than those teaching the course. Students who do poorly on homework assignments and quizzes are referred for remedial help in their problem area.

## COURSE EVALUATION

Vocational programs are constantly developed and expanded as changes in industry or Coast Guard regulations occur. The newest teaching aids and techniques have been adapted for use in the maritime field by a teaching staff which includes specialists in virtually every area of the maritime industries.

After the course has been taught several times or new technology has changed the nature of the job, staff members again visit the ships or boats and meet with Union and company representatives to up-date the course. Often contact is made with the graduates who supply information on how the course relates to the job and what might be done to improve the course.

When dealing with highly technical areas, the school acquires all the instruction and operation manuals for the equipment students will be using. This allows the recommendations of the manufacturers of the equipment to be included in the course.

## SUPPORT SYSTEM

The Harry Lundeberg School is administered by a joint Board of Trustees consisting of three trustees and two alternate trustees representing the Seafarer's International Union and the contracted U.S. companies. An agreement and Declaration of Trust provides guidance to the Board of Trustees in administering the school. The President of the Harry Lundeberg School is responsible to the Board of Trustees for maintaining the policies of the trust and implementing them in educational programs.

MASSACHUSETTS

125

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COURSE TITLE: Machine Occupations

NAME OF FACILITY AND ADDRESS: Hampden District Regional Skills  
Center  
322 Main Street  
Springfield, MA 01105

CONTACT PERSON: Sr. Lorry Villemaire

PHONE NUMBER: (413) 781-8250

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 630

AVERAGE HOURS:

MAXIMUM HOURS: 1050

COMPLETELY OPEN ENTRY/OPEN EXIT:

NUMBER OF COMPETENCIES (tasks): 49

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 20

APPROXIMATE TOTAL ENROLLMENT: 49

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

After the completion of a labor market study of job availability, the Skills Center administration uses the information to determine those needs approachable within the framework of the Center. A basic curriculum is identified and then developed fully in conjunction with a number of local firms who are actively engaged in some or all facets of the proposed cluster. The Skills Center staff visits a number of the firms to observe ongoing activity and, in many instances, slides are developed to provide trainees a more comprehensive knowledge of job responsibilities in the industry. Having completed this activity, task analyses are performed by the specific instructors and the curriculum coordinator in the Skills Center. Again, these are discussed with representatives of local industry for approval and validation.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Having completed a basic curriculum and the task analyses, performance objectives are written. The major effort is to insure that the objectives are manageable and measurable. The performance objectives are disseminated both to instructors and trainees who are observed for a period of months to assess whether expected achievements are demonstrated.

## INSTRUCTIONAL DELIVERY

The program is completely open entry/open exit with trainees entering the program every Monday of the year. Individualized instruction is designed into both the training-related and practical areas of the program. However, group instruction is utilized for the following areas: safety procedures, job orientation, audio-visual presentations, guest lecturers, discussion groups, and any number of training-related concepts that are geared for group instruction.

Trainees use live equipment for which there have been identified a number of projects involving job tasks and performance objectives. At the outset of their program, the trainee is expected to perform at his/her own level of training; however, all trainees are fully aware of the exact length of time in which they are expected to complete the required competencies for job readiness. Based upon an employability plan, the trainee is also presented a complete set of tasks and objectives to be completed within the given framework. If the trainee requires more time, a modification arranged with the instructor can be approved so long as the request is forwarded within the first 40 percent of the trainee's program.

It is essential to stress that each trainee receives a self-contained program. Individual differences are determined during the orientation and assessment process before actual enrollment into the occupational training program. As a result, a training course is evolved for the individual based on actual performance oriented data.

## STUDENT TESTING PROCEDURES

Inherent to the competency-based curriculum is a checklist of activities that each trainee must complete successfully before moving from one unit of training to the next. In each instance, there must be a minimum performance level of 80 percent which is based on a combination of daily assignments, quizzes, and practical application. All assignments are collected and grades are recorded. In addition, there is a bi-weekly evaluation of the trainee's performance to determine progress. This report is based on 10 days' activity and is forwarded to the counseling office for further discussion and determinations. At the end of each unit of study, an examination must be passed before the trainee proceeds to the next training level.

## COURSE EVALUATION

The course is evaluated on a continuing basis with primary emphasis placed on job placement, retention, and reports to the Skills Center both from employers and graduates. Based on these sources of information, the staff and curriculum coordinator investigate any area of concern and institute whatever adjustments are required.

On a continuing basis, the staff review recently developed course information to determine its viability for inclusion in the curriculum. There is a close relationship with labor market analysts to insure program credibility.

## SUPPORT SYSTEM

The major base of support is one that has evolved over a period of years; a relationship with local industry. This includes not only an advisory board, but a reciprocal arrangement with many firms that employ Skills Center graduates. Within this industry, there are ongoing relationships with approximately 40 local firms, all of which have employed Skills Center graduates. Together with the advisory membership, representatives of many industries visit the Center and have demonstrated their support through employment of graduates, letters of support, and the contribution of equipment, tools, and consumable supplies.

The Center is administered by a director who is responsible to the local School Department. Technical advice is also available through the State Department of Occupational Education which approves curriculum and instructional staff.



M I C H I G A N

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COURSE TITLE: Auto Mechanics

NAME OF FACILITY AND ADDRESS: State Technical Institute and  
Rehabilitation Center  
Alber Drive  
Plainwell, MI 49080

CONTACT PERSON: Robert Leneway

PHONE NUMBER: (616) 664-4461

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute  
and Rehabilitation Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_ x \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 260

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 260

APPROXIMATE TOTAL ENROLLMENT: 400

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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x	x	x	x	x	x	x		x	x	x	x



## METHOD FOR IDENTIFICATION OF TASKS

Fifteen "successful" employees working in the field for less than 5 years were interviewed about what they do on the job. The results were compiled and analyzed with a computer. Tasks identified by 60% of the workers were selected for inclusion in the course.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were written by staff at the Capitol Area Career Center, Mason, Michigan, tested for four years, and then rewritten. The objectives were adapted for our handicapped adults and retested on the new population.

## INSTRUCTIONAL DELIVERY

Instructional modules are used which are supported by slides/tapes, filmstrips, and film loops, in a highly mediated learning resources center adjacent to the auto mechanics shop. Students may enter and exit selected specializations of the automotive career cluster according to their interests and abilities. Examples of occupations within this cluster are: front end specialist, brake specialist, minor maintenance mechanic, general mechanic, and tune up specialist. Performance objectives are established for each module specifying the conditions under which the objectives must be performed, and acceptable certification levels based on time required to achieve the objective. There are three certification levels: 1 = no time limit; 2 = flat time rate plus 50%; 3 = flat time rate or less. Detailed student records are kept on completed modules. Remedial math and reading instruction are available.

## STUDENT TESTING PROCEDURES

Each task is checked by actual performance on a vehicle in flat rate time. Modules are clustered around the National Institute for Automotive Service Excellency Certification (NIASE) categories. Passing the NIASE or the Michigan Motor Vehicle Mechanic Program exams is the terminal objective for each cluster in the auto mechanics program. It is felt that this would allow for more specialization and placement opportunities for disabled adults while maintaining quality training standards.

## COURSE EVALUATION

A comparison study is being made on the effectiveness of this competency-based approach (and the traditional approach) in terms of drop-out rate, job placement rate, absenteeism, training time, and student response.

## SUPPORT SYSTEM

Development of this course was funded in part by the Michigan Department of Education's Adult and Continuing Education Section. It was also supported by Michigan's State Board of Education Advisory Committee to the State Technical Institute and Rehabilitation Center, and the citizen

advisory committee for automotive mechanics training.

Various professional staff members assist individual students in such areas as: physical therapy, speech therapy, deaf counseling and interpretation, dormitory counseling, and placement service.

MINNESOTA

137

118

PROGRAM TITLE: Adult Vocational Program

NAME OF FACILITY AND ADDRESS: Suburban Hennepin County Area Vo-Tech  
Centers  
1820 North Xenium Lane  
Minneapolis, MN 55441

CONTACT PERSON: John Kobe

PHONE NUMBER: (612) 559-3535

TYPE OF FACILITY WHERE COURSES ARE OFFERED: Public Technical Institute

NUMBER OF CBE COURSES OFFERED: 39

COMPLETELY OPEN ENTRY/OPEN EXIT: Yes

NUMBER OF COMPETENCIES (tasks): not applicable

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: not applicable

APPROXIMATE TOTAL ENROLLMENT: 22,000

MONTHS OF THE YEAR WHEN THE PROGRAM OPERATES: All Year



## METHOD FOR IDENTIFICATION OF TASKS

Tasks are identified with the help of advisory committees. Job descriptions from local businesses and industries are used as a reference. About 40-45% of the students are enrolled in courses which were "tailor-made" for area businesses and industries. Advisory committees are heavily involved in the programs and the school purchases no equipment without advisory committee endorsement.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The competency-based concept was started when the school opened. The school administration developed a structure for learning activity packages, called PAKs, for use throughout the school. The format for specifying performance objectives is consistent across all programs. All full-time teachers in the regular day program are involved in writing performance objectives and curriculum. The adult evening teachers also use these curriculum materials. Program advisory committees and content specialists on the staff review the objectives and curriculum regularly and suggest revisions.

## INSTRUCTIONAL DELIVERY

Adult vocational instruction is individualized for the most part and delivered via the individual learning PAKs, developed by the regular day teachers. In some cases where the course fills a unique need of business or industry, the part-time evening instructor uses his/her own methods of instruction. The PAK includes the purpose, general performance objective, specific performance objectives for each segment, information sheets, an evaluation for the general performance objective, a task listing sheet, and task detailing sheets for each task on the task listing sheet. The specific performance objective involves a list of learning activities and resources. The resources vary from course to course but may include textbooks, videotapes, slide-tape sets, audio tapes, information sheets, and worksheets as well as tools and materials required to perform the task. A lesson plan is included for the instructor which lists teaching aids, devices, and procedures such as demonstrations and lectures for supplementing the individualized learning PAK.

## STUDENT TESTING PROCEDURES

Student evaluation is performance-based. A student cumulative record is kept for each student which lists the competencies/tasks included in each course. The following rating scale is used to record student performance on each task:

- 6 - performs task/competency with exceptional ability
- 5 - performs task/competency with speed and quality
- 4 - performs task/competency at job entry level
- 3 - performs task/competency with periodic assistance
- 2 - performs task/competency with constant assistance
- 1 - cannot perform this task/competency satisfactorily
- T - task/competency accomplished at or above job entry level by performance challenge test

## COURSE EVALUATION

Regular instructors update courses and tests throughout the year based on the results of student testing; these revisions are examined once a year by the advisory committee to assure validity with industry requirements.

## SUPPORT SYSTEM

There is a strong institutional commitment to CBE. Adult vocational teachers who use the competency-based learning PAKs in their evening courses are required to take the pre-service training unit offered by the school. There are four (4) additional in-house teacher training sessions available. Advisory committees are actively involved in curriculum planning and revision.

Funding comes from a combination of federal, state, and local tax revenue and student tuition.



PROGRAM TITLE: Competency-Based Personalized Vocational-Technical Instruction Programs

NAME OF FACILITY AND ADDRESS: 916 Area Vo-Tech Institute  
3300 Century Avenue, North  
White Bear Lake, MN 55110

CONTACT PERSON: Dr. William C. Knaak, Superintendent

PHONE NUMBER: (612) 770-2351

TYPE OF FACILITY WHERE COURSES ARE OFFERED: Public Technical Institute

NUMBER OF CBE COURSES OFFERED: 58

COMPLETELY OPEN ENTRY/OPEN EXIT: Yes

NUMBER OF COMPETENCIES (tasks): 5,800

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 5,800

APPROXIMATE TOTAL ENROLLMENT: 5,500 annual part-time adult enrollment

MONTHS OF THE YEAR WHEN THE PROGRAM OPERATES: All Year

## METHOD FOR IDENTIFICATION OF TASKS

The personalized instruction curriculum is built around job tasks which are derived from the occupation in which training is being given. A list of job tasks is compiled with the assistance of advisory committees in specific occupations. Surveys, comparison with similar courses in Minnesota and Wisconsin, and recommendations from the U. S. Office of Education were also taken into account.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The instructional development department assists instructors in development of objectives. A "Learning Guide" is prepared for each job task which is a series of directives to take the students through the learning process. The format of the Learning Guide is standardized and is in use throughout the Institute. Learning Guides have a statement of the task and its purpose printed on the cover along with department, program, task, and prerequisite codes. The Learning Guides include a terminal performance objective and a list of micro-performance objectives followed by an agreement where the student and instructor sign a statement indicating the performance and time agreement reached between the two. This agreement becomes the basis for reporting the student's competency and for recording progress.

Objectives are validated by the advisory committees, by students being able to perform after instruction, by job placement, and by follow-up after one year on the job.

The 916 Vocational-Technical instructional program is designed to function at a high degree of self-instruction on a self-paced basis.

## INSTRUCTIONAL DELIVERY

In the Learning Guide, students are provided learning steps and resources necessary to accomplish each micro-performance objective. Information sheets list such items as tools, equipment, materials, and explanations of procedures and techniques necessary for the performance. Each department of the school has its own Learning Resource Center where students may obtain sound slide sets, video tapes, textbooks, or other resources specified in the Learning Guide.

Daytime programs have monthly entry/open exit. The adult evening program is structured into a fixed time frame generally in 9-week quarterly blocks. Here the monthly entry/open exit concept is applied at the performance objective (or task) level, allowing for a high degree of individualization within the course.

## STUDENT TESTING PROCEDURES

Criterion tests are used as part of the learning steps and are not used just as a final test of competence. The last page of the Learning Guide contains a Performance/Product Checklist on which the instructor evaluates the students' performance. Students work at their own pace and

contact the instructor when they feel competent to have their performance evaluated. This Performance/Product Checklist contains multiple criteria for evaluating the psychomotor skills of a terminal performance objective. The "product" is the performance which is to be done. No resources may be used with the checklist unless the same resources are used as a part of normal job performance. Students receive a monthly individual report which lists competencies mastered, standard hours completed, and estimated completion date.

## **COURSE EVALUATION**

Graduates as well as present students give feedback for course evaluations. Advisory committees review courses at least once a year. The instructional staff continually reviews and revises the curriculum. The Institute uses a teacher training program in-house for instructors in both the day and adult evening programs. One of the seven modules is "Revising the Curriculum." These teacher modules are self-instructional and competency-based. Teachers are trained to focus on the "end product" (student performance) to better meet the industry needs.

## **SUPPORT SYSTEM**

Industrial/business advisory committees offer suggestions for selecting equipment as well as recommending and reviewing curriculum. Administrative support is strong; the entire school is practicing and committed to competency-based education. In-house staff training deals with implementing, designing, evaluating, and revising competency-based personalized curriculum. Support services are strong with instructional design, media, materials production, and assistance with individual students' problems.

Funds are provided by local and state vocational monies with federal support. Some out-of-state and international students attend on a full-cost tuition basis.

MONTANA

147

125

COURSE TITLE: Clerk-Stenographer

NAME OF FACILITY AND ADDRESS: Billings Vocational-Technical Center  
3615 Montana Avenue  
Billings, MT 59101

CONTACT PERSON: Nancy J. Halvorsen

PHONE NUMBER: (406) 252-8449

TYPE OF FACILITY WHERE COURSE IS OFFERED: State Post-Secondary Vo-Tech Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 97

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 97

APPROXIMATE TOTAL ENROLLMENT: 85

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Job descriptions were secured from the Dictionary of Occupational Titles. The tasks were then identified from the information obtained from the Dictionary.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed from the tasks (explained above). Specific parameters of the performance objectives were developed from our teachers' backgrounds in the classroom as well as on-the-job experiences and input from former students and employers. These performance objectives were presented and approved by our Advisory Committee, which is made up of educators, administrators, employers, former students, and secretaries working in the field.

## INSTRUCTIONAL DELIVERY

A Learning Activity Pak has been developed for each task. The tasks are divided into subjects within the course program. Students are scheduled to work on certain subjects for particular periods during the day. The program is open entry/open exit. When the program is completed, students exit to a job.

## STUDENT TESTING PROCEDURES

Theory and production tests are used for the most part. There are a few areas where it is important to measure attitudes. This has been a difficult area for us, and we are working on this at the present time. Each task has a corresponding test. An evaluation section is included in each LAP, which explains the type of test given and the basis for grading. We keep a book for each student that contains all the tasks in our course. The instructors keep a progress chart showing the units the student has completed. At the end of each quarter, this task book is filled in with all the units completed during that quarter. When the student completes the program, he/she receives a certificate with all the tasks listed that he/she has mastered.

## COURSE EVALUATION

The instructors in the Business Department meet and discuss possible additions, revisions, or deletions to the program. These revisions are presented to our Advisory Committee at this time. The Committee is also asked for further suggestions for curriculum changes. Any changes to be made are completed at two annual in-service workshops sponsored by our Center.

## SUPPORT SYSTEM

We utilize Advisory Committees in an advisory capacity only. Most of our funding comes from the State. A small amount is obtained from Federal programs. The administration is responsible for conveying our needs to the State Legislature.

NEW MEXICO

COURSE TITLE: Beginning Shorthand

NAME OF FACILITY AND ADDRESS: Southwestern Indian Polytechnic  
Institute  
P. O. Box 10146  
Albuquerque, NM 87107

CONTACT PERSON: Pat Lloyd

PHONE NUMBER: (505) 766-3270

TYPE OF FACILITY WHERE COURSE IS OFFERED: Federal - BIA Vocational  
(post-secondary)

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 8

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 2

APPROXIMATE TOTAL ENROLLMENT: 22

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified through examination of the progressive steps necessary to initiate the development of the manual/academic skill of beginning shorthand. Applying the teaching/learning theory to that examination produced a series of procedures to use in implementing the teaching of this basic subject. The tenet, "building from the simple to the complex," prevailed in our task planning. Guidelines were suggested in Modern Business and Office Education: A Curriculum Guide for Office Education, published by the Department of Education, Santa Fe, New Mexico.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Through the use of the job analysis, objectives were specifically identified by the instructors and coordinator of training which would lead students to the performance level where they would be able to proceed to the advanced shorthand course. The performance objectives set up for this course were reviewed by the Business Education Department Chairman and the Advisory Committee.

## INSTRUCTIONAL DELIVERY

The classroom where instruction is carried out is equipped with a tape console, a board for the writing of outlines by the instructor; textbooks, notebooks, pens, and individual tape units for student use. The Business Education Department operates on an individualized instruction, open entry/open exit arrangement, where students enter at their own level of competency and may rise to whatever level they choose to work towards. Live dictation by the instructor is utilized as the student progresses.

## STUDENT TESTING PROCEDURES

After each group of practice lessons, students are given quizzes; both on writing outlines for transcription and brief form tests. Timed dictation units are frequently given. Since instruction is individualized, quizzes and tests are given individually rather than to a classroom of students at the same time. The proficiency level to exit from this course is the ability to take shorthand dictation at 60 words per minute from new material and transcribe it with 95% accuracy. Three such tasks are required for satisfactory completion of the course.

## COURSE EVALUATION

The instructor continually reviews methods and the results from such methods. If several students have problems with a unit, the instructor reviews presentation methods and will possibly add or change material on the tapes being used in the instruction. The school utilizes a curriculum committee of staff members to review periodically the curriculum offered by all training areas. Any major course changes would need to be approved by that committee.

## SUPPORT SYSTEM

There is an advisory committee for the Secretarial/Clerical Section. The school utilizes a Supportive Education Department for the non-skill areas of instruction. The School has a Board of Regents to set policy. Funding is adequate, being financed by the Federal Government through the Indian Education Office of the Bureau of Indian Affairs.

COURSE TITLE: Mine Maintenance Technology

NAME OF FACILITY AND ADDRESS: New Mexico State University  
Carlsbad Branch  
2900 West Church St.  
Carlsbad, NM 88220

CONTACT PERSON: W. E. Briggs and John Winters

PHONE NUMBER: (505) 385-6513

TYPE OF FACILITY WHERE COURSE IS OFFERED: Junior/Community College

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 150

AVERAGE HOURS: 200

MAXIMUM HOURS: 250

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 20

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 20

APPROXIMATE TOTAL ENROLLMENT: 13

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified by representatives of local industry and by visitations to schools teaching similar programs. Instructors with experience in private industry were hired to teach the course. The experiences of these instructors and a survey of advisory board members were incorporated into the job analysis.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed by the instructors with assistance from the advisory board. The course is designed to teach specific competencies. The objectives were approved by the New Mexico State University's main campus and the director of the local campus as well as the State Department of Education.

## INSTRUCTIONAL DELIVERY

The course is now open entry/open exit. Instruction is delivered through video tapes, slide/tape shows, lecture/demonstration, video cassettes, and training simulators. Students perform hands-on experiments and problems. We are offering mini-courses and short seminars in specific areas, mainly hydraulics, electricity, and welding/fitting.

## STUDENT TESTING PROCEDURES

Students are taught manipulative skills and theory in several different disciplines. Our testing of the students consists of written examinations, demonstrated proficiency on training panels, problem solving on training panels, and a final evaluation where the instructors take the students one at a time through the high points of the whole program. This evaluation is oral and manipulative in nature and is designed to find out what the student has learned.

## COURSE EVALUATION

The instructors are continually evaluating the course and updating the material. We have just completed 15 additional slide/tape shows, produced by the instructors, covering our material. The Mine Maintenance Advisory board meets monthly and recommends changes in the program if needed. New Mexico State Department of Education sends an evaluation team in periodically and the North Central Association of Colleges and Secondary Schools has sent an evaluation team down to evaluate the course.

## SUPPORT SYSTEM

The school is administered by the NMSU-Carlsbad administration staff. Our funding base comes from the New Mexico State Department of Education. Additional funding comes from the Four Corners regional commission and equipment donations from seven Potash Mining Companies and several local vendors and businesses. Additional equipment was obtained from New Mexico State University surplus property yard. A mine maintenance advisory board reviews the curriculum as stated above.

COURSE TITLE: Practical Nursing

NAME OF FACILITY AND ADDRESS: St. Vincent Practical Nurse Program  
Northern New Mexico Community College  
c/o College of Santa Fe  
Santa Fe, NM 87501

CONTACT PERSON: Rosemary Sanderson

PHONE NUMBER: (505) 982-6524

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 1350

AVERAGE HOURS: 1350

MAXIMUM HOURS: 1350

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 205

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 71

APPROXIMATE TOTAL ENROLLMENT: 35

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

Lucile A. Wood's study, "UCLA Allied Health Professions Project--Nursing Occupational Report," was used to identify tasks. Revisions were made to suit area needs.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The course is part of the New Mexico System for a Nursing Articulation Program (SNAP) project. Minimum behavioral expectations which beginning practitioners are expected to perform are outlined in the New Mexico SNAP project. These minimum expectations serve two purposes: (1) Employers of the graduates of nursing programs will know what to expect in minimum performance of graduates. (2) This will assist in facilitating and implementing a statewide cooperative plan among schools of nursing.

## INSTRUCTIONAL DELIVERY

Modules are used for both theory and clinical experience. A student syllabus lists competencies along with Introduction and Rationale, Directions, Vocabulary, Behavioral Objectives and Related Learning Activities, and Mastery Assignments, for each competency. The course is being revised and changed to commercially produced modules. Modules for Basic Nursing Skills, by Ellis, Nowlis and Bentz (1977), will be used. Filmstrips, slides, and films are used to supplement the modules. Students work at their own pace within a given framework and have three chances to achieve mastery.

## STUDENT TESTING PROCEDURES

Student testing is through demonstration of tasks in laboratory and hospital settings. Mental concepts are tested via multiple choice examinations.

## COURSE EVALUATION

The course is evaluated yearly by faculty and students through written evaluations. Students evaluate the syllabus on a written evaluation sheet. Graduates also participate in course evaluations. The curriculum is then updated and/or revised annually.

The SNAP project involves a three-year grant to the University of Albuquerque to design, implement, and evaluate a statewide articulated system of nursing education programs. Conclusions and recommendations from the SNAP evaluation reports will be incorporated in course revisions.

## SUPPORT SYSTEM

Both school and course advisory groups are active. Students participate in WIN, CETA, and VA programs. Staff workshops are conducted in the SNAP project. The State Department of Education conducted a workshop in the spring of 1977 on developing performance objectives and curriculum development.

NEW YORK

161

136

COURSE TITLE: Office Practice (secretarial occupations, clerk typist, word processing)

NAME OF FACILITY AND ADDRESS: Board of Cooperative Educational Services (BOCES)  
Adult Occupational Education Center  
One Albertson Avenue  
Albertson, NY 11507

CONTACT PERSON: Lynne A. Taube

PHONE NUMBER: (516) 484-1900

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 195

AVERAGE HOURS: 240

MAXIMUM HOURS: 300

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 120

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: ---

APPROXIMATE TOTAL ENROLLMENT: 76

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## **METHOD FOR IDENTIFICATION OF TASKS.**

Tasks were identified through the instructor's work experience in the field with assistance from the curriculum office. New tasks are added when student and employer feedback indicates a need for additional skills. Newspaper classified ads are also used to determine current job skill requirements.

## **DEVELOPMENT OF PERFORMANCE OBJECTIVES**

Performance objectives were developed and validated in conjunction with the Board of Cooperative Educational Services curriculum advisor and the New York State Education Department.

## **INSTRUCTIONAL DELIVERY**

Instruction is delivered on an individualized basis via modules and an open-entry basis.

## **STUDENT TESTING PROCEDURES**

Student testing is criterion-referenced through individualized instruction.

## **COURSE EVALUATION**

The course is reviewed yearly by the State Board of Education and the Board of Cooperative Educational Services' administration. Successful student job placement is considered a criterion for the course evaluation.

## **SUPPORT SYSTEM**

This program is federally funded. There are various support systems including curriculum advisement, administration, and direct contact with New York State education personnel.

COURSE TITLE: Practical Nursing

NAME OF FACILITY AND ADDRESS: Health Occupations Program  
257 West 4th Street  
Oswego, NY 13126

CONTACT PERSON: Dorothy Fisk

PHONE NUMBER: (315) 343-0130

TYPE OF FACILITY WHERE COURSE IS OFFERED: BOCES - Board of Cooperative  
Education Services

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 1000

AVERAGE HOURS: 1200

MAXIMUM HOURS: 1350

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): ---

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: ---

APPROXIMATE TOTAL ENROLLMENT: 24

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## **METHOD FOR IDENTIFICATION OF TASKS**

Tasks were identified by: (1) defining the job roles and responsibilities of the L.P.N.; (2) ascertaining up-date skills required by industry with industry representatives; and (3) identifying basic principles which apply in each category.

## **DEVELOPMENT OF PERFORMANCE OBJECTIVES**

Performance objectives were developed around two core phases. Each core consists of a basic and an advanced phase.

## **INSTRUCTIONAL DELIVERY**

Instruction is delivered through units. Several courses are integrated into the curriculum to eliminate duplication of content.

## **STUDENT TESTING PROCEDURES**

Unit exams and performance tests are provided at frequent intervals.

## **COURSE EVALUATION**

Faculty and administration review the course periodically. A faculty curriculum review workshop is held each year. Suggestions from student evaluations are incorporated in the revisions.

## **SUPPORT SYSTEM**

The Health Occupations Department has an advisory board. The chairman is a member of the overall Occupational Advisory board. The primary sources of funding are (adult) VEA and tuition.

OHIO

167

141

COURSE TITLE: Adult Cooperative Office Education

NAME OF FACILITY AND ADDRESS: Vanguard Vocational Center  
Adult Education  
Cedar Street  
Fremont, OH 43420

CONTACT PERSON: William Randall

PHONE NUMBER: (419) 332-2626

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Secondary

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 9

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 3

APPROXIMATE TOTAL ENROLLMENT: 16

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

The instructor's experience in office work and communication with area employees determine the tasks which should be included in this course. The main tasks are typing, basic accounting, and office machines. Other added tasks such as filing, telephoning, human relations, shorthand, and transcribing machines are studied as the need arises and time permits.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Each student entering the class is given objective sheets on which to record present skills. Conferences are held with each student to determine individual goals and the job-entry level skills necessary for that goal.

## INSTRUCTIONAL DELIVERY

Each task is somewhat different, but most instruction is delivered through textbook reading assignments followed by practice on the machines. Students are to use teachers' manuals and keys whenever necessary to check their own work. Tests are given at prescribed intervals and graded only by the instructor to enable the instructor to be aware of any problems and to be advised as to the work being done. The instructor is available at all times to answer questions and help (similar to a supervisor or an employer).

## STUDENT TESTING PROCEDURES

An Objective Sheet tells the student when she is ready for a test. (Example: Do five machine lessons, checking your work with manual, take test, if completed with 95% accuracy, complete next five lessons, take second test, if completed with 95% accuracy move to new machine.) Students may take tests as often as necessary to be competent. The instructor grades only tests. Each student works and takes tests at her own rate. Each subject is tested by its own method.

## COURSE EVALUATION

The instructor does most of the evaluation with the help of a supervisor. Feedback is received from the students' employers. End-of-the-year evaluations from students are used, and the instructor is in constant touch with other business teachers, as well as with the Ohio State Employment Office in Fremont.

## SUPPORT SYSTEM

The program is funded with State vocational funds.

COURSE TITLE: NCR 399/499 Programming (Self Instruction)

NAME OF FACILITY AND ADDRESS: NCR Corporate Education  
101 W. Schantz Avenue  
Dayton, OH 45479

CONTACT PERSON: Carl Wick

PHONE NUMBER: (513) 449-2407

TYPE OF FACILITY WHERE COURSE IS OFFERED: Business

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 40

AVERAGE HOURS: 60

MAXIMUM HOURS: 80

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 110

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 110

APPROXIMATE TOTAL ENROLLMENT: ---

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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THE CENTER FOR VOCATIONAL EDUCATION

## METHOD FOR IDENTIFICATION OF TASKS

This course was modified from a classroom/workshop type of course. Tasks were identified in the job analysis considering the capabilities of the computer along with the most likely functions the computer performs in the business world.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed from the job analysis. They were validated with test classes, by examining the results of student written programs. Student questionnaires and comments were used to help in the refinement of the course material.

## INSTRUCTIONAL DELIVERY

A text, narrative descriptions, examples, review questions with feedback, and the actual writing of routines and programs are used in instructional delivery. The text is linear, with the student progressing from one lesson to the next. The student works at his/her own pace. A monitor (subject matter expert) is available to answer questions or help explain troublesome areas.

## STUDENT TESTING PROCEDURES

A monitor (usually the student's supervisor) evaluates the student. Toward the end of the course he/she writes and debugs several programs (this is the terminal objective). The monitor has prepared solutions and is available during the execution of the program. Upon completion of the course the monitor may recommend the review of particular areas or consider the student proficient and he/she will begin writing production programs.

## COURSE EVALUATION

Since this course is self-instructional, the course was evaluated during the several validation sessions. Written comments and responses to questionnaires from students who have taken the course will help in evaluation and in possible revision for future printings of the course.

## SUPPORT SYSTEM

The support system is, in fact, the sale of an NCR 399 or 499 Electronic Accounting Computer System. This, in turn, causes the need for customer and/or NCR personnel training. The course is sold to customers as an "unbundled" support service.



COURSE TITLE: Practical Nursing

NAME OF FACILITY AND ADDRESS: Mid Ohio Practical Nurse Program  
205 West Cook Road  
Mansfield, OH 44907

CONTACT PERSON: Virginia Young

PHONE NUMBER: (419) 756-2381

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Secondary

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 1388

AVERAGE HOURS: 1388

MAXIMUM HOURS: 1388

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 30

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 30

APPROXIMATE TOTAL ENROLLMENT: 40

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks of Licensed Practical Nurses were identified from job descriptions from hospitals and nursing homes in the community as well as specific guidelines from the State Board of Nursing.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The job analysis and the State Board Rule Book were used as criteria for developing the curriculum. Performance objectives were written for specific skills stating the behavior, the conditions and the expected standard.

## INSTRUCTIONAL DELIVERY

The program is designed to last one year consisting of two 6-month terms. Instruction in the first 6-months is delivered through group and individualized instruction. Counseling and audiovisual aids are utilized with practical experience in the laboratory and hospital. The second 6-months includes similar instructional techniques with hospital practice. Students may take challenge exams for credit during the first 6-months.

## STUDENT TESTING PROCEDURES

Student testing consists of written tests, laboratory performance tests, and actual hospital performance supervised by instructors.

## COURSE EVALUATION

The course is reviewed annually and revised as necessary by faculty and coordinators. The State Board of Nursing and NAPNES Accrediting Review Board are involved in course evaluation.

## SUPPORT SYSTEM

Our Advisory Committee, Board of Education, and two cooperating hospitals (Mansfield General Hospital and Gallon Community Hospital) provide administration and advisory support. Funding is through State and Federal vocational funds and student tuition.

OREGON

175

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PROGRAM TITLE: First-Year Shorthand

NAME OF FACILITY AND ADDRESS: Mt. Hood Community College  
26000 S.E. Stark  
Gresham, OR 97030

CONTACT PERSON: May Oka

PHONE NUMBER: (503) 667-7196

TYPE OF FACILITY WHERE COURSES ARE OFFERED: Junior/Community College

NUMBER OF CBE COURSES OFFERED: 3

COMPLETELY OPEN ENTRY/OPEN EXIT: No

NUMBER OF COMPETENCIES (tasks): N/A

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 19

APPROXIMATE TOTAL ENROLLMENT: 235

MONTHS OF THE YEAR WHEN THE PROGRAM OPERATES: October thru July

## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified after a thorough review of correct business education literature. The instructor's past shorthand teaching experience was a major resource in the job analysis.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Behavioral objectives were developed by the instructor for all three levels (beginning, intermediate, and advanced) of the Integrated Learning Program (ILP). This individualized shorthand system was designed and copyrighted by the instructor to help teachers and students work within the framework of individual differences.

Minimum performance standards are set up for each level. For example, one of the seven minimum performance standards for level III (Advanced) is:

He will be able to transcribe 50 brief form derivation dictated at 50 words per minute and transcribe at the rate of 25 words per minute with 95 percent accuracy. In addition to correct transcription, alphabetic characters and shorthand spelling are checked.

## INSTRUCTIONAL DELIVERY

Students progress at their own pace with the aid of the instructor and presentation and dictation tapes. Materials included in the ILP shorthand system are:

1. Instructor's Manual - containing information on managing the ILP system, content of the three courses, record keeping, testing, and evaluation program.
2. 202 cassettes of recorded instruction - providing material under timed conditions on review of theory and brief forms, mailable letters, three- and five-minute dictation tapes, and test tapes.
3. Printed material - containing behavioral objectives for all three levels, homework procedures, timeline charts, test keys, and preview sheets.

The instructor is especially vital in the ILP individualized shorthand system. It is the teacher who plans, organizes, and evaluates the learning, prescribing the program to develop strengths and overcome weaknesses according to student needs. The teacher provides the motivation and group interaction, in an environment that stresses student responsibility for managing their own learning and development.

## STUDENT TESTING PROCEDURES

Students are tested over material covered in the textbooks. A timeline chart suggests when tests should be taken if the student wishes

to finish the course within a given term. However, students may take tests at their discretion--whenever they are ready. Most of the tests are controlled through time dictation on audio cassette tapes.

#### **COURSE EVALUATION**

Shorthand I, II, and III are offered simultaneously in the same room. The individualized instructional program written by May Oka is continually reviewed, updated, and revised by her. Students provide the basis for input in improvement of the course.

#### **SUPPORT SYSTEM**

Shorthand I, II, and III are required courses in the Administrative and Legal Secretarial programs. These programs are supported by an active advisory group.

SOUTH DAKOTA

181

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COURSE TITLE: Electronics

NAME OF FACILITY AND ADDRESS: South-East Area Vo-Tech School  
701 South Western Avenue  
Sioux Falls, SD 57105

CONTACT PERSON: Robert Griffith

PHONE NUMBER: (605) 336-7815

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_ x \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 147

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 4

APPROXIMATE TOTAL ENROLLMENT: 38

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks were identified by the instructors and the electronics Crafts Committee members. This Committee is comprised of 10 electronic technicians and two professors, representing the private sector of college education in the community. Two of the technicians are past graduates, two are past technicians advanced into management, two are self-employed, and the rest work at a variety of industrial and service-type jobs. The Committee reviewed materials from several other institutions that were using competency-based programs and provided reliable input to the final curriculum.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The performance objectives were written by the instructors after they attended four different workshops at institutions that were using the competency-based curriculum. The electronics Crafts Committee members then reviewed them, made some changes and approved the final list.

## INSTRUCTIONAL DELIVERY

Instruction is self-paced by use of information "packets" (modules). An open entry/open exit format is in use.

## STUDENT TESTING PROCEDURES

Each "packet" has a ten question post-test. Each unit (from 5-10 packets) has a 25-question test. After the "basic" group of packets (42), there is a 100-question written test covering the first 42 packets.

## COURSE EVALUATION

Presently only the Advisory Committee is involved in course evaluation. We are implementing a student follow-up study and visiting other schools with similar programs to get ideas for course improvement.

## SUPPORT SYSTEM

We are a public post-high school under the local (city) school board, with the majority of funding from State and Federal Vocational Acts (66 percent). The remaining 34 percent is from tuition (\$180.00 per quarter), plus the local school board. The Director of the school has an "advisory" committee of 25 community leaders and each subject area has an advisory or "crafts" committee composed of 10 tradesmen working in that area.

TENNESSEE



COURSE TITLE: Principles of Warehousing

NAME OF FACILITY AND ADDRESS: State Technical Institute at Memphis  
Project Cerce  
5934 Macon Cove  
Memphis, TN 38134

CONTACT PERSON: Eugene Demetriou and Phil Moore

PHONE NUMBER: (901) 372-3080, ext. 225 or 229

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒

NUMBER OF COMPETENCIES (tasks): 36

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 29

APPROXIMATE TOTAL ENROLLMENT: 15

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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## METHOD FOR IDENTIFICATION OF TASKS

The identification of tasks was based on the work experience of the instructor and laboratory technician. The source textbook was used as a reference.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Objectives were developed by the instructor in conjunction with the source text.

## INSTRUCTIONAL DELIVERY

The course is broken down into modular segments with a test given after each segment. The open start/open end format is utilized within the parameters allowed by this program--students enter the course up until the fourth week. This is one of three technological courses in the program which is organized in the modular format. Students are given hands-on practice using such skills as forklift operation, packing, and taking inventory. Developmental courses in basic math and reading are offered concurrently for students lacking those skills.

## STUDENT TESTING PROCEDURES

Students prepare a study guide for each module. After studying the module and answering his study guide questions, the student is given a closed book test. If the test is not passed he reviews the module and is given another set of written or oral questions. An example of performance testing involves an obstacle course for testing (competence in) forklift operation. The student must be able to finish a task without knocking down more than a specified number of pallets used as obstacles. After passing the written and performance tests required for a module, the student begins the next module.

## COURSE EVALUATION

Presently the course is evaluated to some degree by the instructor and laboratory technician at least weekly. This is done orally and changes are made as required.

## SUPPORT SYSTEM

The funding is allocated by the Tennessee State Government through a grant to the State Technical Institute at Memphis. The overall purpose of the grant is for education and rehabilitation for inmates at the Memphis Correctional Center.

Three people representing industry in the Memphis area act as an advisory committee and review the curriculum content to assure its relevance to local job market requirements. Most students seek jobs in the Memphis area when they are released from the facility.

TEXAS

COURSE TITLE: Clerical

NAME OF FACILITY AND ADDRESS: Dallas Manpower Skills Center  
1403 Corinth Street  
Dallas, TX 75215

CONTACT PERSON: Bobby Joe Slade

PHONE NUMBER: (214) 421-7636

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: 810

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 57

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 5

APPROXIMATE TOTAL ENROLLMENT: 23

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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159

## METHOD FOR IDENTIFICATION OF TASKS

Tasks have been identified through the use of textbooks and course outlines from other institutions. An in-house curriculum writer and four clerical instructors participated in the job analysis.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed from the job analysis. The Area Manpower Institute for Development of Staff (AMIDS) organization held a meeting on clerical performance objectives at the time we were preparing the course outline. Input was received at this meeting from clerical instructors from several states and representatives from the four Texas Skills Centers.

## INSTRUCTIONAL DELIVERY

Instruction is delivered via the open entry/open exit format. The school operates on a 12-month basis, having no terms or semesters. Trainees may enter a vocational course, including Clerical, at the beginning of the week. Instruction is individualized and personalized by utilizing pre-tests, large and small group instruction, audio-visual aids, video tapes, and programmed instruction. Trainees are allowed to work and progress at their own pace to meet the standards of business and industry, and the requirements for entry level employment.

## STUDENT TESTING PROCEDURES

Student testing is done by objective and subjective exams when testing Trainees' knowledge of related information or theory. Actual skills performance is tested by observing trainee performance in completing a task or terminal performance objective. Student completion of tasks or objectives to predetermined standards constitutes the best test, where possible.

## COURSE EVALUATION

The course is reviewed with the skill instructors, the curriculum writer, and members of the Technical or Crafts Advisory Committee members to determine its relevance to the needs of business and industry. Revision is made at any point where the review indicates that a change is necessary. Reviews are conducted with the course instructors and curriculum writer visiting with individual members of the Advisory Committee.

## SUPPORT SYSTEM

Our instructional support system includes a Technical Advisory Committee, Multi-media Learning Center with full-time instructor, counselors, teacher aides, and administrative supervision. A curriculum writer is also provided to act as a resource person, and help with selection and recommendation of media, resource and instructional materials.

7

UTAH

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COURSE TITLE: Electronics Assembly

NAME OF FACILITY AND ADDRESS: Utah Technical College at Salt Lake  
431 S. 6th East  
Salt Lake City, UT 84102

CONTACT PERSON: Keith E. Bingham

PHONE NUMBER: (801) 328-8521

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒ x

NUMBER OF COMPETENCIES (tasks): 40

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 40

APPROXIMATE TOTAL ENROLLMENT: 65

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR-

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## METHOD FOR IDENTIFICATION OF TASKS

Entry level skills and involved tasks were identified by studying job descriptions and visiting local industries. Personnel managers, foremen, and workers in electronic assembly were interviewed.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The results of the job analysis were evaluated and a list of course objectives developed. The objectives were presented to the industries involved in the analysis and to an Advisory Council. Suggestions were considered and the objectives were formulated into an overall course outline.

## INSTRUCTIONAL DELIVERY

The course is offered via an open-ended format. LAPs (Learning Activity Packages) modules are utilized.

## STUDENT TESTING PROCEDURES

Students are tested at the end of each task for immediate feedback. Student self-examinations and instructor examinations are incorporated. Performance skills are evaluated.

## COURSE EVALUATION

Records are kept of successful student completion as compared to student failures. A six-month industry follow-up of students keeps the course objectives and goals current and up to industry standards.

## SUPPORT SYSTEM

The course is taught at a Skills Center with financing by CETA, WIN, and DRS, as well as the State Board of Education. Support persons include student counselors, job developers, and our administration.

COURSE TITLE: Masonry

NAME OF FACILITY AND ADDRESS: Utah Skills Center, North  
1100 Washington Blvd.  
Ogden, UT 84067

CONTACT PERSON: Toby H. Gonzales and Dan Scama

PHONE NUMBER: (801) 621-2373

TYPE OF FACILITY WHERE COURSE IS OFFERED: Adult Skills Center

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT: ☒ x

NUMBER OF COMPETENCIES (tasks): 22

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 200

APPROXIMATE TOTAL ENROLLMENT: 60

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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1964

## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified in a job analysis performed by the job development team. The instructor had worked in the trade for 20 years. His knowledge of job requirements was incorporated into the job analysis.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed by the instructor based on the competencies required in the trade by contractors. Contractor feedback on student performance provides validation for these objectives.

## INSTRUCTIONAL DELIVERY

The instruction is offered through individualized instructional packets in an open entry/open exit arrangement. Slide projectors, study guides, reference materials, projects and on-the-job training are instructional methods utilized. Students get hands-on experience doing masonry work on homes built by the local high schools.

## STUDENT TESTING PROCEDURES

Written examinations are given on knowledge of methods and procedures. Students are allowed to go to the next unit of instruction only when a certain performance level has been achieved and demonstrated.

## COURSE EVALUATION

A questionnaire called a "Histogram" is given to each student quarterly to evaluate the course and instructor. Each instructor is evaluated annually according to training program effectiveness in achieving a production schedule.

## SUPPORT SYSTEM

The training is supported by numerous federal and community agencies, many of which provide funding, counseling, and other forms of support. Much of our funding comes from the state through vocational education and the Full Time Equivalent program. Inhouse support includes the job development/placement team, policy board, and student services.

COURSE TITLE: Typewriting

NAME OF FACILITY AND ADDRESS: Utah Technical College  
4600 S. Redwood Road  
Salt Lake City, UT 84102

CONTACT PERSON: Kathryn Beebe  
PHONE NUMBER: (801) 299-3411

TYPE OF FACILITY WHERE COURSE IS OFFERED: Junior/Community College

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 26

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 26

APPROXIMATE TOTAL ENROLLMENT: 80

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified through interviews with workers using typewriting skills in non-clerical jobs, and by consultation with Advisory Committees.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were written by three faculty members with assistance from the Advisory Committee. Information was collected from a survey of former students. Because students from several other vocational areas take this course, the Advisory Committees of these areas were also involved.

## INSTRUCTIONAL DELIVERY

The course is open entry/open exit. It is developed around modules for each area of typewriting production. This class is offered to printing, drafting, marketing, accounting, and data processing majors.

## STUDENT TESTING PROCEDURES

Performance is tested using sample production typewriting problems under timed conditions. Each student is recycled until his/her performance level reaches the specified objective for that particular student.

## COURSE EVALUATION

Student placement and follow-up, employer follow-ups, and quarterly Advisory Committee meetings provide data for course review.

## SUPPORT SYSTEM

The school is funded by legislative appropriation. This class is taught in the Secretarial and Computer Education Division by regular faculty. Each of the student groups enrolling in the class have functioning craft advisory committees as does the Division.

WASHINGTON

201

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COURSE TITLE: Career Development Lab for Clerical and Secretarial Students

NAME OF FACILITY AND ADDRESS: CBC Richland Center for Extended Programs  
1011 Northgate  
Richland, WA 99352

CONTACT PERSON: Mrs. Bernie Warner

PHONE NUMBER: (509) 946-9669

TYPE OF FACILITY WHERE COURSE IS OFFERED: Junior/Community College

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:  X

NUMBER OF COMPETENCIES (tasks): 69

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 113

APPROXIMATE TOTAL ENROLLMENT: 267

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
X	X	X	X	X	X	X		X	X	X	X

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks of entry-level clerical and secretarial employees were identified from actual job descriptions obtained from Hanford Contractors. Guest speakers from industry, government, and private employment agencies were also helpful by identifying the required performance skills and the desired character traits of an office employee. Interviews with clerks and secretaries were taped or recorded in manuscript form.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The job analysis and a survey of the advisory board were the criteria for determining curriculum. Programmed texts, or texts which could be adapted to programmed instruction, were carefully selected. The performance objectives were written to correlate with the learning materials designed to achieve specific competencies. The objectives were written for measurable units of instruction and the conditions for measuring performance were clearly stated.

## INSTRUCTIONAL DELIVERY

The Career Lab was designed to provide a flexible, open entry/open exit program in which people of varied abilities and social and economical backgrounds could receive brush-up training or a complete program of study. The teaching methods coordinate counseling, individualized instruction, small and large group seminars, audio and visual aids, programmed materials, and guest speakers. Each student's program is built around a career objective. A buy-time option permits a student to enroll for as few as 18 hours of instruction. Additional time may be added as needed. Seminars introducing programmed instruction provide transfer learning from technique taught to hands-on equipment with little lost time. The hours of instruction required varies in proportion to the interest and ability of the individual student to reach the level of proficiency for employment.

## STUDENT TESTING PROCEDURES

The Career Lab is a learning environment in which no one fails and only progress is recorded. The objective is not a grade, but "learning for mastery." There are self-checks and frequent evaluations built into each course to measure performance. A "good" or "traditional B" is required for each unit within a course subject. Students who do not achieve this level on an evaluation review their work with the instructor, restudy, and retest. They do not progress to the next unit until this level of performance is achieved. Each completed unit is recorded by the Lab Assistant and the work is kept in the student's file until the student exits the program. Gregg Award Testing materials are given to measure skills. A proficiency certificate, which lists the student's skills and related subjects completed, is issued when she exits.

## COURSE EVALUATION

The course is continually evaluated by the instructor in an effort to try new or better methods to achieve our goals. The students have an opportunity to evaluate the course and their instructor. A suggestion box.

invites their opinions. Student counseling is encouraged. The subject content of the curriculum was presented by students to the advisory board. Former employed students were invited to report on their successes and to make recommendations. The program, the enrollment trends, and job placement are evaluated by the Dean of Vocational Education and by the Dean of Instruction. The instructor is also evaluated by the Division Chairman. Area employment personnel are accepting Career Lab proficiency certificates in lieu of company testing. They frequently solicit our students for employment.

#### SUPPORT SYSTEM

The Career Lab is a part of the Business Department of Columbia Basin Junior College in Pasco, Washington. This lab is located in Richland, Washington, at the CBC Richland Center. There is also a lab on campus. The support system is the State of Washington. Our advisory board includes representatives from industry, the city of Richland, the State, and the College.

COURSE TITLE: Initial Transition & Refresher Flight Crew Training

NAME OF FACILITY AND ADDRESS: Boeing Commercial Airplane Company  
P. O. Box 3707 M/S 16-70  
Seattle, WA 98124

CONTACT PERSON: William H. Critch  
PHONE NUMBER: (206) 655-3396 or 3185

TYPE OF FACILITY WHERE COURSE IS OFFERED: Industry

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 200

AVERAGE HOURS: 225

MAXIMUM HOURS: 350

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 999

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: ---

APPROXIMATE TOTAL ENROLLMENT: 15

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

In coordination with the engineering groups and using Condition/Action flow techniques, a listing of tasks with associated manipulative actions and observations is obtained for all airplane operating procedures, normal as well as non-normal. This product is carefully reviewed and approved before specific behavioral objectives are written.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

In developing the performance objectives, the tasks and task elements (manipulative actions and observations) identified in the Task Analysis process are further defined in terms of precisely WHAT is accomplished, WHY, BY WHOM, and WHEN it is accomplished. Also included are any pertinent constraints or limitations and a contingency action for accomplishment in the event that the expected response or final condition does not occur.

These data are then analyzed further to define what skills or knowledge the crewman must possess to perform each task element adequately. Finally, this information is broken down into two parts:

- (1) Those skills or knowledge which are not a part of the repertoire of all multi-engine jet crews. (Learning content of a jet-to-jet TRANSITION course)
- (2) Those skills or knowledge which are a part of general multi-engine jet crew repertoire, excluding those skills or knowledge possessed by a commercially rated instrument pilot with 250 hours total flying time. (Learning content of PRE-ENTRY course)

Inherent in item (2) above is the requirement that all crews entering Boeing training have a minimum of Commercial Pilot License, Instrument Rating, and 250 hours total flying time.

## INSTRUCTIONAL DELIVERY

Learning content of the course is identified in the specific behavioral objectives. In the learning analysis process, learning points are allocated to the optimum environment (classroom, cockpit procedures training (CPT), etc.). Within each environment, e.g., the classroom, this information is sorted into logical groupings (systems and sub-systems) and the learning points within each sub-system are sequenced for presentation. Material is presented via instructor lectures with 35mm slides, films, and video tapes. Self-mediated audio-visual tutorial systems are available.

The lists of learning points are broken down into manageable groups of 15-20 LEARNING SEGMENTS, representing about five minutes of instructional time, and student feedback is built in at the end of each segment via ENABLING QUESTIONS.

As soon as sufficient supporting data have been presented, the student is exposed to a related COMPLEX TASK, thus providing reinforcement of learning through application and actual practice in a simulated environment.

The course is sequenced in such a manner that the crewman is exposed to normal operation of all airplane systems, followed by live practice in the cockpit procedures trainer (CPT). In this manner he can become completely familiar with normal operating procedures before being exposed to system malfunctions.

Non-normal system operation is covered in a similar manner, followed by non-normal procedures practice in the CPT in the framework of a normal flight profile.

### STUDENT TESTING PROCEDURES

The purpose of the evaluation system is to ensure satisfactory completion of each phase of training by each trainee. In order to minimize the requirement for remedial training in the more costly environment of simulator or airplane, a comprehensive set of criteria for evaluating the trainee before, during and after ground school has been established. Failure to meet the required standard at any one of these evaluation check-points indicates a need for remedial training and re-evaluation before progressing further in the training cycle.

### COURSE EVALUATION

Careful study of trends in trainee evaluation and performance assists in the identification of inadequacies and "over kill" in the training program. The course is reviewed by the Boeing Flight Training Center, the customers, and the Federal Aviation Agency.

### SUPPORT SYSTEM

The course is supported by the Boeing Company to train flight crews to operate commercial transport airplanes manufactured by the Boeing Company. Approximately 160 course developers and trainers are employed by Boeing to develop curriculum, required media resources, hardware, and complex simulator systems like the cockpit procedures trainer. A Flight Operations Behavioral Systems Unit has been prepared which outlines in detail the course development process.

COURSE TITLE: Special Food Service/Food Preparation

NAME OF FACILITY AND ADDRESS: Renton Vocational-Technical Institute  
3000 N.E. 4th St.  
Renton, WA 98055

CONTACT PERSON: Robert C. Roberts

PHONE NUMBER: (206) 235-2352

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 220

AVERAGE HOURS: 245

MAXIMUM HOURS: 270

COMPLETELY OPEN ENTRY/OPEN EXIT: \_\_\_\_\_

NUMBER OF COMPETENCIES (tasks): 6

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 204

APPROXIMATE TOTAL ENROLLMENT: 12

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

☐

or

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X	X	X	X	X	X			X	X	X	X



## METHOD FOR IDENTIFICATION OF TASKS

Major skills were identified first. Each major skill was then broken down into objectives to be reached. The tasks were then identified in relation to the final objectives required to reach an acceptable skill level.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The "job" served as the major organizer for this course. The organizer provided a structure around which various student experiences and activities as well as instructional strategies could be developed. The rationale for choosing the job as the key organizer was that the major thrust of the program is on training individuals for specific work responsibilities. Once the job had been defined, performance objectives could be developed by having students learn about these particular jobs via direct experience, demonstrations, discussions, and encounters with various types of media.

Validation occurs by direct observation. Evaluation reports of those observations are completed and filed with student records throughout the length of the course. When a student has reached an acceptable skill level as defined by the performance objectives, that student is assumed ready for employment in industry.

## INSTRUCTIONAL DELIVERY

Instruction is delivered over a one-semester, 90-lesson plan, format. The lesson plans are broken down into classroom units and active experience units. The classroom units reinforce those skills necessary to accomplish the job.

## STUDENT TESTING PROCEDURES

Students are not tested but rather evaluated individually during the whole semester. Job skills have been determined and students are evaluated on those skills as the semester progresses.

## COURSE EVALUATION

The program is annually evaluated by the craft advisory committee. Attention is given to the program's placement record as verified through a student-based follow-up.

## SUPPORT SYSTEM

The Vocational-Technical Institute is a locally controlled agency that is principally state funded. The Board of Directors of the local school district is assisted in governing the ungraded (secondary/post-secondary) institutions by craft advisory committees.

COURSE TITLE: Structural Engineering Technicians

NAME OF FACILITY AND ADDRESS: L. H. Bates Vocational-Technical  
Institute  
1101 S. Yakima  
Tacoma, WA 98405

CONTACT PERSON: E. C. Strong  
PHONE NUMBER: (206) 597-7259

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 1800

AVERAGE HOURS: 2574

MAXIMUM HOURS: 3200

COMPLETELY OPEN ENTRY/OPEN EXIT: x

NUMBER OF COMPETENCIES (tasks): 126

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: 12

APPROXIMATE TOTAL ENROLLMENT: 20

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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THE CENTER FOR VOCATIONAL EDUCATION



## METHOD FOR IDENTIFICATION OF TASKS

The instructor identified the tasks based upon his 21 years of experience in the field. Tasks were selected to prepare students for job entry.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

Performance objectives were developed by the instructor for instruction in all elements, both mentally and manipulatively.

## INSTRUCTIONAL DELIVERY

Instruction is open entry/open exit. Programmed instructional materials are utilized as well as instructor lectures.

## STUDENT TESTING PROCEDURES

Students are given the California Mental Maturity examination and testing in basic math skills before entering the program.

## COURSE EVALUATION

The course is evaluated yearly by the instructor and his supervisor based on industry contacts. The advisory committee composed of employers, certified engineering technicians, professional engineers, and union representatives also reviews the course.

## SUPPORT SYSTEM

The advisory group meets bi-monthly. The school is supported by federal and state funding.

WISCONSIN

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COURSE TITLE: Mechanical Drafting

NAME OF FACILITY AND ADDRESS: Northeast Wisconsin Technical  
Institute  
1601 University Drive  
Marinette, WI 54143

CONTACT PERSON: Brian G. Oehler

PHONE NUMBER: ---

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: 720

AVERAGE HOURS: 720

MAXIMUM HOURS: 720

COMPLETELY OPEN ENTRY/OPEN EXIT: ---

NUMBER OF COMPETENCIES (tasks): ---

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES: ---

APPROXIMATE TOTAL ENROLLMENT: 27

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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x	x	x	x	x				x	x	x	x



## METHOD FOR IDENTIFICATION OF TASKS

Tasks were identified through: (1) a review of literature, (2) a survey of drafting supervisors in our vocational-technical district, (3) an occupational advisory committee, (4) brief articulation with local high schools, and (5) the instructor's experience and expertise.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The tasks were originally validated through a district-wide occupational survey. The behavioral objectives were written by the instructor and have been tested by four groups of learners.

## INSTRUCTIONAL DELIVERY

The complete course of 20 units is divided into 41 modules. Besides the structured lecture/discussion method, video tapes, slides, filmstrips, textbooks and working drawings are utilized.

## STUDENT TESTING PROCEDURES

For the fundamental modules, the student is required to master a written criterion-referenced quiz (85%) before moving to the next module. The objectives are also measured through the 115 required drawings and sketches.

## COURSE EVALUATION

The course is evaluated by a number of people or groups. The program must be approved by (1) the State Vocational-Technical Office, (2) the District Supervisor of Instruction through a curriculum committee, and (3) the local advisory committee. The burden of evaluation realistically falls on the individual instructor. He must be in tune to student success through industry's acceptance.

## SUPPORT SYSTEM

The vocational-technical system in Wisconsin is not governed by the State Department of Public Instruction. We have our own administration, board, and property tax funding base. Each program is required by law to have its own advisory board.

COURSE TITLE: Turret Lath Operation

NAME OF FACILITY AND ADDRESS: Milwaukee Area Technical College  
5555 West Highland Road  
Mequon, WI 53092

CONTACT PERSON: Donald L. Marlow

PHONE NUMBER: (414) 242-6500

TYPE OF FACILITY WHERE COURSE IS OFFERED: Public Technical Institute

HOURS REQUIRED TO COMPLETE THE COURSE:

MINIMUM HOURS: \_\_\_\_\_

AVERAGE HOURS: \_\_\_\_\_

MAXIMUM HOURS: \_\_\_\_\_

COMPLETELY OPEN ENTRY/OPEN EXIT:   x  

NUMBER OF COMPETENCIES (tasks): 95

NUMBER OF TERMINAL PERFORMANCE OBJECTIVES:

APPROXIMATE TOTAL ENROLLMENT: 17

MONTHS OF THE YEAR WHEN THE COURSE OPERATES:

ALL YEAR

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or

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## METHOD FOR IDENTIFICATION OF TASKS

The tasks were identified by working with industry to ascertain their needs, using information supplied by manufacturers of a particular machine (in this case turret lathe) as to the various operations and tools that can be used on their equipment, and relying on the instructor's past experience in the field.

## DEVELOPMENT OF PERFORMANCE OBJECTIVES

The student is expected to set up a turret lathe using good methods and procedures in a reasonable amount of time. All of the lectures or lessons in the machine shop are on video tape. Therefore, the instructor has time to observe the students to be sure they are using good methods.

## INSTRUCTIONAL DELIVERY

The instructions are delivered by three methods: video tape, workbook, and instructor.

1. The workbook is a guide which will lead the student through the entire project, and from one project to the next, listing all the video tapes that are available. The workbook also describes all new information in written and picture form.
2. The video tapes give a complete description of all tools and the setting up of these tools. There are some 90 video taped lessons (ranging in time from 2-24 min.) for turret lathe operation.
3. The instructor helps students on particular problems with items they did not understand by viewing the video tape or reading the workbook. It is a completely open entry/open exit approach.

## STUDENT TESTING PROCEDURES

The goal of instruction is to teach a student how to set up a turret lathe so that it can produce large numbers of parts. After a student has set up the machine to accurately produce these parts the instructor checks the set-up and the parts being produced. Then the student answers questions.

## COURSE EVALUATION

The turret lathe program is being used by several other schools in the area and by many instructors both day and evening. These instructors give advice as to where students are having problems and how they feel the course can be revised to do a more effective job. Other schools in the country are also using these systems and we hope to get feedback from these schools.

## SUPPORT SYSTEM

Our machine shop program does have an advisory committee who will make suggestions on course content, type of equipment, and so forth. Funding comes from local taxes and state aids.

## APPENDIX A

### Cross Reference of Selected Competency-Based Adult Vocational Education Courses and Programs By Vocational Subject Area

#### Public Sector and Proprietary Schools

##### Agricultural Education

Nursery Operations, 53

##### Business and Office Education

Adult Cooperative Office Education, 169  
Beginning Shorthand, 153  
Bookkeeping, 25  
Business Careers, 27  
Career Development Lab for Clerical and  
Secretarial Students, 203  
Clerk-Stenographer, 149  
Computer Programming & Operations, 71  
First-Year Shorthand, 177  
Introduction to Office Machines, 97  
Office Occupations, 21, 41  
Office Practice, 163  
Secretarial, 59  
Shorthand, 39  
Transcribing Machine Operation, 81  
Typewriting, 61, 63, 199

##### Distributive Education

Cashiering for Sales People, 49  
Principles of Warehousing, 187  
Professional Checker Training, 55

##### Health Occupations Education

Nursing Physical Assessment: A Short Course, 101  
Practical Nursing, 159, 165, 173

##### Home Economics Education

Special Food Service/Food Preparation, 211

## APPENDIX A CONTINUED

### Trade and Industrial Education

Auto Maintenance and Repair, 23  
Auto Mechanics, 133  
Blueprint Reading for Machine Trades, 89  
Civil Technology (Surveying), 69  
Cosmetology, 35  
Electronics, 183  
Electronics Assembly, 195  
Machine Occupations, 127  
Machine Shop, 51, 75  
Masonry, 197  
Mechanical Drafting, 217  
Mine Maintenance Technology, 157  
Practical Radio & TV for Beginners, 13  
Radio & TV Repair, 15  
Sheet Metal, 37  
Structural Engineering Technicians, 213  
Turret Lathe Operation, 219

### Programs Including All Vocational Service Areas

Adult Vocational Program, 139  
Competency-Based Personalized Vocational-Technical Instruction  
Programs, 143

### Other Private Sector

#### Business

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